applies himſelf, in ſpite of every obſtacle, to rigid contemplation and ſtudy. The effect of this direction was at its utmoſt height when the native was eighteen years and four months old; about which time, as he has ſince told me, he was ſo intent upon ſtudy, as to frame a contrivance to blind up the crevices of the doors and windows, that no part of the family might have a ſuſpicion of his paſſing the greateſt part of the night in reading and contemplating the different branches of ſcience.

M.C. ☌ ♄. The medium-cœli to the oppoſition of Saturn. This is a no leſs remarkable than fatal direction, again appertaining to the native and his maſter. It ſhews an animoſity between them, ſo far as it relates to the buſineſs; but it preſages the death of the maſter, and once more ſets the apprentice at liberty; as though fate had really ſtriven with him to obtain a different purſuit. But here, as I have been confidently informed, the parent again interpoſed his ſovereign authority, and, in ſpite of every argument, and of every importunity, ſo prejudiced was he in favour of the emoluments of trade, and ſo fixed in his mind upon that which he had before ſingled out for his ſon, that he loſt no time in chooſing him out a new ſituation. Here we perceive, in its ſtrongeſt colours, the abſurdity as well as the evil conſequence of *forcing* upon the hands of youth avocations which their nature lothes, and which are foreign both to their ability and their inclination. Let us here for a moment pauſe, and, look which way we will, we ſhall find ample teſtimonies of the truth of this miſtaken zeal for the proviſion of our children. A zeal which has, more than all other cauſes put together, furniſhed the world with a race of *bunglers* in almoſt every profeſſion; for the mind, like the temperature of the body, cannot be forced, but will be governed by its own immediate laws; a circumſtanc, which, if duly attended to, and regulated by the quality of the ſignificators at birth, would not only prove much more highly advantageous to children, but infinitely more beneficial to maſters of every craft and occupation.

⊕ □ ☿ — ♂ □ ♃. Theſe aſpects are both made in the world; and their directions are of courſe mundane. They are both quartiles of a pernicious tendency, and even threaten the life of the native. Under the influence of the firſt, he is put, ſorely againſt his will, to a new maſter, with whom he ſhews but little diſpoſition to attend to buſineſs. Under the ſecond, which acts in contact with, or rather follows up, the evil nature of the firſt, his life is endangered by ſome violent accident of fire. This is moſt aptly denoted by the poſition of Mercury in a fiery

fiery ſign, with the violent planet Mars, his ſignificator, and the Part of Fortune, which in this nativity is giver of life, all in quartile aſpect; but, whether this danger ſhould occur to the native by his falling into the fire, or by the burning the houſe he lived in, or by what particular misfortune, was impoſſible to determine; but it was evident to my underſtanding that his danger would come by means of fire. After conſidering and reconſidering theſe conſigurations, I enquired of the native, whether he had not, ſome time between nineteen and twenty years of age, had the misfortune to ſet his bed-curtains on fire, or his room; for, as I knew he had often accuſtomed himſelf to read in bed, I had a ſtrong ſuſpicion that he had fallen aſleep, and that the curtains had taken fire, and expoſed him to the danger of being burnt in bed. But this he abſolutely denied, and contended much for his carefulneſs and precaution on thoſe occaſions. Had he by any accident fallen into the fire? or had the candle caught his clothes? No; he never had met with ſuch an accident in his life. I perſiſted moſt confidently that ſome ſuch accident muſt have befallen him, and at that particular time, whereby he was expoſed to great bodily hurt, if not to the danger of loſing his life; and I requeſted him to reflect upon the matter, and to tell me ingenuouſly the fact. At laſt, he ſatisfied my doubts, by relating the following circumſtance:

'He had not been many days with his new maſter, before he was left in the ſhop with no other companion than a young lad, who had been put apprentice to the ſame perſon a year or two before. At the ſame time that the maſter's abſence furniſhed Mr. Witchell with an opportunity of taking a book from his pocket to read, which was invariably the caſe upon all ſuch occaſions, it afforded the other lad fit time to go to play. A ſoldier's muſquet ſtood in one corner of the ſhop, moſt aptly denoted by the quartile poſition of Mars, which the boy took up, and began to perform the manual exerciſe with. When he came to that part, "Make ready—preſent—fire," he levelled the piece cloſe to the body of his fellow-apprentice Witchell, who ſat with the utmoſt calmneſs and compoſure, reading his book; a circumſtance evidently implied by the poſition of Mercury. The boy drew the trigger, the gun ſnapped, and he recovered his arms. Pleaſed of courſe with any employment rather than with his buſineſs, he proceeded with the manual a ſecond time. When he preſented the piece again, it was elevated ſomewhat above Mr. Witchell's head; he drew the trigger, the gun went off, and carried away a large piece of the window leaving both of them, as Providence would have it, totally unhurt. With this

I was quite ſatisfied, it relieved me from my doubts; and, upon equating the direction, I told him this muſt have happened on or very near the 26th of September, 1747; for, though the other aſpect came up ſooner, yet its influence was held on by the quick ſucceſſion and ſimilar quality of the co-operating or ſecondary aſpect, which was not ripe in its maleſic tendency until the day Mars began to ſeparate from his auxiliaries, which was on the day above-mentioned, at which time the native was near twenty years of age. After endeavouring to recollect all the circumſtances of the fact, he acknowledged I was ſtrictly right in point of time, as well as in my judgment of the danger he had been expoſed to by means of fire.

The aſtrological reaſon of this narrow but happy eſcape is thus defined from the native's horoſcopical figure of birth: In the eighth houſe, which is the houſe of death, we find the benevolent planet Jupiter, which is an irrefragable argument that the native ſhould not die a violent, but a natural, death. Now, had Saturn or Mars been there, the evil had certainly touched his life. Another deciſive teſtimony for the preſervation of the native's life is, that the direction operating comes from a benefic planet; and, though the direction be of an evil quality, yet, as it is not governed by the anareta, nor by any croſs direction either from Saturn, Mars, or the Sun, to the Part of Fortune, it is impoſſible, according to the radical import of the ſignificators, that life ſhould be deſtroyed, although expoſed in this remarkable manner to the moſt unequivocal inſtrument of death.

I have dwelt the longer upon theſe two directions, becauſe I conſider them as the moſt remarkable in the whole figure; and I am ſure their effect is equally extraordinary; beſides, it tends to ſhew, that, in genitures where the ſignificators clearly demonſtrate a long life and natural death, and where no croſs maleſic configuration ſtrongly irradiates the aphetic place, however the native, in his journey through life, may be expoſed to the moſt imminent perils and dangers, yet, if benefic ſignificators, as in the preſent nativity, have the aſcendency in point of dignity and conſtitution of place, he ſhall ſafely overcome them all, and enjoy life until that period of time arrives, when exhauſted nature can no longer exerciſe her proper functions, and diſſolution becomes the neceſſary conſequence.

I do not here mean to enter into any arguments againſt that abſurd ſtile of reaſoning, which, reſting all its force upon ſupppoſed propoſitions, will

will contend, that, if the muſket had been pointed the ſecond time at the body of the native, he muſt have been killed, let the ſtars have been poſited how they might. But what man would be hardy enough ferioufly to avow this? or, if he did, it could avail nothing, ſince facts and ſuppoſitions would be ſtill at variance. The piece was not levelled the ſecond time at the native; and why it was not, who can define? It is enough for me to ſhew, that, by the native's figure of birth, he was not to receive any fatal injury; I will now thank the man, who by any other, or equally reaſonable, hypotheſis, will point out to me why the piece was not levelled at the native the ſecond time? or, if it had, let him prove that the piece muſt of neceſſity have gone off, and that the conſequent wound muſt have been mortal. When this is done, I ſhall be ready to give it an anſwer.

M. C. □ 4. This aſpect imports no good; it is a quartile between Jupiter and the midheaven; and, as Jupiter is lord of the ſecond and fifth houſes, it declares loſs of ſubſtance to the native, by the interference of ſome religious or clerical perſon, who ſhould prove his enemy. This came up by direction in twenty years and five weeks from the time of birth; at which period of the native's life, as he hath frequently aſſured me, he was prevented from receiving a ſum of money from a relation who had actually promiſed to give it him, but for the perſuaſions of the curate of the pariſh, who, having taken ſome offence at the native, ſet every engine at work to injure him in the opinion of his friends. This aſpect is likewiſe baneful to all contracts or purchaſes under it.

☉ ♂ ☿—M. C. ♂ Cor Leo.—⊕ ☌ ♀. The Sun to the conjunction of Mercury, the midheaven to the conjunction of Cor Leonis, and the Part of Fortune to the oppoſition of Venus. Theſe directions were all operating at nearly the ſame time. Under the firſt, he was very ſtudiouſly inclined, and influenced to the regular purſuit of the mathematics. Under the ſecond, he was introduced to the acquaintance of ſeveral reſpectable characters, eminent in the line of ſcience, and who ſhould feel a predilection in favour of the native. And this really laid the foundation for his being introduced into the mathematical ſociety. The third direction operated with the laſt, and ſhews, that, while he was engaged in forming ſuch connections as ſhould introduce him into public life, he ſhould fall pretty much in the way of the ladies, and that a large and perplexing female acquaintance would be the reſult, which is indicated by the oppoſition of Venus to the Part of Fortune.

Theſe two laſt directions have their force continued, in a more or leſs ſenſible degree; until the influence of ſome other direction begins to take place; and this, we find by looking in the Table of Directions, p. 687, admits a ſpace of almoſt three years. And here let it be remembered, that the fulfilment of any matter or thing promiſed by a direction is completely formed when its aſpect is in all reſpects perfect, and the irradiations of each contributing ſtar fully complete; though, according to the latitude of that principal ſignificator by which the direction is brought up, the ſubject of the matter or thing ſ to be brought about may, by certain gradations of influence, be ſome time in preparation, ere the abſolute event is really brought to paſs. For, in the caſe of marriage, there is uſually ſome time ſpent in courtſhip and dalliance, before the parties repair to the hymeneal altar. But, when this is performed, or about to be performed, the exact working up of the direction fully demonſtrates. So it is in all other caſes where a matter is declared to be brought to paſs by the force of a direction; except where a direction of a contrary quality, and ſuperior ſtrength, falls in its way, and overturns its tendency and influence; on all which occaſions the thing originally predicted is ſet aſide, and a contrary effect takes place; as we frequently obſerve in perſons betrothed, who, even at the church-door, or before the altar, change their ſentiments, and put the marriage aſide. But, if no ſuch croſs directions interpoſe, and a length of time occurs between them, then the original aſpect holds its own proper force and quality to the full extent, and whatever it denotes is in a general way fully completed, with all its conſequences and contingent effects.

Aſc. ✶ ☽. Under this direction, the influence wrought by the laſt is brought to perfect maturity. A connexion with one of the ladies, which had for ſome time been formed, is now brought to its criſis; and, when this aſpect was complete in all its rays, the parties were married. The perſonal deſcription which this aſpect gives of the wife, is of a middle ſtature, pale dark complexion, brown hair, comely, and agreeable; in mental endowments diſcreet and ingenious, rather petulant, and worldly-minded, and therefore ſufficiently ſaving and frugal.

Aſc. □ ♂ — ☉ ☌ Aſc. Theſe are both directions of an evil deſignation. They import no ſmall ſhare of vexation and diſagreement between the native and his wife, through the means of detraction, and the whiſpers of falſe female friends, connected with the native's wife, who ſow the ſeeds of jealouſy, and lay the foundation of enmity and diſcord, betwixt them. The attention of the native is thus for a time taken off from objects of preferment and advantage; his affairs go backward in the world, and he

ſuffers a two-fold anxiety of mind, accompanied with a depreſſion of ſpirits, conſtitutional by the temperature of his ſignificators at birth, but greatly enlarged by the force of this latter direction.

☽ ✶ ☉—⊕ ♂ ♂. Theſe aſpects are found jointly operating, after the influence of the preceding are ſpent, though of an oppoſite action and quality. Under the firſt, the native aſſumes his former purſuit of literary acquiſitions, and endeavours to enlarge his connexions with men of letters and character. He ſucceeds much to his wiſhes, being, at the time this direction came up, which was in twenty-five years and nearly a half from his birth, introduced to ſeveral gentlemen of the firſt literary talents and reſpectability, who promiſed him their patronage and friendſhip. But, in the height of theſe flattering proſpects, the ſecond direction, viz. the Part of Fortune to a conjunction of the Dragon's Tail, ſubjects the native to a violent ſore throat and fever, occaſioned by cold taken in purſuing the objects of the other direction. This affliction was very ſevere, and ſeized the native, as he hath ſince aſſured me, when he was twenty-five years and a half old, and confined him to his bed for near a fortnight.

☉ △ ♂. This direction imports much good to the native, from thoſe who are his ſuperiors. Under its influeuce he will extend his literary connexions; and will derive honour and eſtimation from the extent of his own abilities, in the opinion of thoſe who are diſpoſed to ſerve him. This direction likewiſe, from the prolific ſituation of the ſignificators in the figure of birth, imports conception to the native's wife, which, I have no ſcruple to affirm, took place under its influence.

☽ △ ☿. This is a very flattering direction, and preſages much good to the native. Under its force he will apply very cloſe to ſcientific exerciſes, and enlarge the number of his friends. It was under this direction he was introduced to the acquaintance of Dr. Bevis, who was afterwards very much his friend, and rendered him ſeveral eminent ſervices. This gentleman was a great encourager of ſcientific ſpeculations, and was ſo perfectly maſter of aſtrology, as to have calculated ſeveral national events, which ſeverally came to paſs with the moſt remarkable exactneſs.

M. C. ♂ ♂. This direction implies good to the native, becauſe Mars is lord of the aſcendant; otherwiſe it would have operated to his diſadvantage. He was warmly engaged in aſtronomical enquiries, when

this direction operated, which likewiſe introduced him to a further acquaintance with gentlemen eminently diſtinguiſhed in that line. It was at this time that he became intimately acquinted with Mr. Charles Brent, Aſtrologer to George II. under whoſe royal authority and direction be calculated the nativity of our preſent illuſtrious monarch, King George the Third; a copy of which nativity he preſented to Mr. Witchell, who afterwards gave it to me, and which I have now ſydereally projected in the annexed plate.

M. C. △ ☿. Under this direction the native hath a ſon born. It hath likewiſe a ſtrong intellectual operation upon the native himſelf, who is impelled to a critical inveſtigation of the then ſtate of the ſeveral departments of ſcience, and imports great honour and pecuniary advantage from his labours therein, and accelerates his deſires for attempting to improve them. I have had a great deal of converſation with Mr. Witchell on the ſubject of this direction, which I conſidered ſomewhat remarkable; and he aſſures me that it was about the time when this direction came up, namely, when he had completed his twenty-ſeventh year, that the firſt thought of correcting and improving the longitude preſented itſelf to his mind, and which was ever after inſeparable from it, until he had fully accompliſhed that moſt invaluable diſcovery.

☽ Smq. ☉ M.—☉ * ♀ M. The Moon to the ſemiquartile of the Sun in Mundo, and the Moon to the ſextile of Venus in Mundo. Here are two generally good directions operating together, which promiſe the native health of body and felicity of mind. The affairs of his family will proſper under them, and all matters relating to ſubſtance and advantage will ſucceed well. He takes ſeveral little journeys, which ſhall prove profitable and pleaſant, and hath the pleaſure of receiving ſome unequivocal marks of the ſincerity and confidence of his friends. And the native frankly acknowledged to me, that no part of his life was ſo free from the intruſions of care and perplexity as the ſpace of time occupied by theſe two aſpects, which carry him from the twenty-ſeventh to the twenty-eighth year his age.

⊕ △ ☿ M—Aſc. □ ♀. The firſt of theſe joint directions hath the deſignation of much good to the native; for, while it prompts him to a laudable purſuit in the improvements of ſcience, it will enlarge the circle of his friends, and promote his reputation with the world. But, as the brighteſt day is not without its clouds, ſo this direction is united with one not quite ſo auſpicious. The quartile of Venus to the aſcendant

dant is productive of family broils and diſſentions. Jealouſies are renewed under this direction; and the native perhaps will find, that dealings with the fair ſex are not altogether ſo profitable to him; on the contrary, he will experience, about this time, the ſtrongeſt exertions of a quondam favourite female to work his deſtruction, which, however, ſhe will not be able to effect. Under this direction the native's wife conceives a ſecond time with a male child.

♃ □ ♄ M. Jupiter to the quartile of Saturn in Mundo. This direction continues the baneful effects of the former, transferring the malignity of his female enemy to thoſe of his male, whereby a variety of unpleaſant occurrences follow, and many mean and ungenerous advantages are attempted to be taken of him. This is followed by a conſequent loſs of ſubſtance, which appears ultimately the means of terminating the evil machinations enforced againſt him. Were the particulars of this ſeries of vexation and perplexity to be unfolded, with the cauſe which gave them being, it might tend to ſtrengthen the reputation of planetary preſcience; but the beſt of people are not without their weak ſide, and God forbid I ſhould take pleaſure in expoſing the foibles of any man, much leſs of one who may be ranked among the number of the moſt deſerving, and to whom I am under many obligations. Suffice it to ſay, that the party of the offended female made head againſt him, until he conſented to pay a handſome douceur, which, as he himſelf informed me, put an end to hoſtilities, and reſtored the olive-branch of peace.

☉ △ ♂ M. This direction promiſes advantage to the native; the Sun being lord of the tenth, and Mars of the aſcendant. This denotes proſperity and reſpect, and ſome advantage by the fidelity and ability of good ſervants. It likewiſe gives the native ſeveral mathematical ſcholars, who become ſtudents under him.

M. C. ☌ ♀. Under the mal-influence of this direction, the native feels the vindictive ſhafts of private enemies, and again encounters ſome family broils and diſingenuous reflections, which likewiſe originate from a female cauſe, and for a time diſturb the internal tranquillity of his mind.

☉ ✱ ♀. This direction reſtores peace and harmony to his family, gives him another pupil in the ſtudy of the mathematics, and all things go on ſmoothly, and much to the native's ſatisfaction and advantage.

He

He receives pleaſure in the purſuits of ſeveral amuſements, and is on terms of perfect amity with his wife and her friends. Under this direction likewiſe Mrs. Witchell becomes pregnant with a daughter, and has the proſpect of a ſafe and healthful time.

⊕ * ☿ M. This direction operates upon the mental faculties, and promiſes much good to the native. Under its influence he writes the Mathematical Magazine, and acquires unbounded reputation in the literary world. He alſo obtains an increaſe of pupils to his mathematical ſchool, and meets with encouragement and ſucceſs in all his undertakings.

☽ Z. P. ♄. The Moon to the zodiacal parallel of Saturn. This direction imports no pleaſing occurrence to the native; under its operation his father falls ſick, and his family is oppreſſed with vexation and ſorrow, ariſing from thoſe evils which chequer life, and render the moſt perfect ſtate of human bliſs mutable and precarious. The native himſelf will be much afflicted with melancholy by this direction.

☽ Z. P. ♂. The Moon to the zodiacal parallel of Mars. This gave Mrs. Witchell another daughter, and demonſtrates a bad and ſickly labour, attended with a dangerous fever to the native, as is declared by the conſtitution of this parallel with Mars; for parallels are either good or bad, according to the nature and quality of the planets by which they are reſpectively brought up. This judgment is likewiſe confirmed by the poſition of the Dragon's Tail in the tenth.

⊕ △ ☿ M. This configuration, being in Mundo, denotes encreaſe of ſubſtance to the native, either by legacy or by hereditary right to the effects of ſome deceaſed perſon, which happened when this direction was completely wrought. It likewiſe indicates proſperity to the native, by means of profeſſional application and perſeverance in the objects before him.

☽ Smq. ☿ M.—⊕ □ ♃. Theſe are directions which induce a ſort of chequered life to the native; for, having an oppoſite quality and influence to each other, whatever the one impels the other counteracts, and renders all attempts and all endeavours, while theſe directions are operating, totally abortive. The native will take ſome ſhort journeys under the conſtitution of theſe aſpects, in the hope of obtaining preferment; but his labours will prove fruitleſs, and his preſent hopes terminate in diſappointment.

diſapointment. Juſt ſo, as the native himſelf aſſured me, was the greater part of his thirty-ſixth year diſtinguiſhed, at which period theſe directions yielded their influence; and many times, when he had reaſon to expect the full completion of his wiſhes, ſome untoward circumſtance or other conſtantly intervened, to ſet his hopes aſide.

☉ Q. ♄ — ☽ ☌ ♄. Theſe directions are fraught with no good, but threaten great anxiety of mind and depreſſion of ſpirits to the native, reſulting from ſome ſecret enemies, who make a point of oppoſing his career, and who vilify and traduce him to ſome perſons of diſtinction and power. He will likewiſe ſuffer ſome affliction in his eyes, and dizzineſs of the head, with melancholy and perturbation of mind, whilſt the ſecond direction is under its operation.

☽ * ♄. The Moon to the ſextile of Saturn, by converſe motion. Under this direction the native has another daughter born; but its influence upon his temporal affairs is but little better than the former; ſince this aſpect comes up very quickly after them, and participates of their quality and temperature. The native recovers completely from his indiſpoſition; but the viciſſitudes of fortune, and the vexations of his mind, continue with little abatement, until the effects of this direction are wholly taken off by the ſucceſſion of another.

☽ * ☿. This is a very promiſing direction, replete with happineſs and good fortune to the native. The powers of ſenſe, of diſcernment, and invention, are here ſtrongly combined, and the reſult leads to proſperity and fame. The native's diſcoveries in the longitude are here moſt aptly depicted; and I have no doubt, but under the force of this direction they were rendered complete. The friendly rays of the Moon and Mercury, in elevated places of the horoſcope, are uniformly productive of the moſt acute intellectual endowments; but relate, in a more peculiar manner, to an extenſive knowledge in ſcience, and to an unbounded comprehenſion of the power and extent of figures. This direction came up in thirty-eight years and eight mounths from the hour of birth, at which period the native made his laſt and final improvements in the longitude, for which his Majeſty rewarded him with a liberal annuity during the reſidue of his life. Let it be remembered that this aſpect falls in twenty-five degrees fifteen minutes of Aquaries; and that the nature of theſe planets being ſo exactly conſtituted with the quality of the ſign, clearly demonſtrates that the improvement and diſcovery, brought up by this direction, ſhould, in a particular manner,

relate to the ſea; a circumſtance deſerving the attention of every curious reader.

☉ Smq. ♃ M. Part of Fortune to the ſemiquartile of Jupiter in mundo. Under this direction the native ſuffers a ſlight indiſpoſition. The internal peace of his family will likewiſe be diſturbed, from a female cauſe; which, however, will ſhortly ſubſide. He will likewiſe experience ſome ſhort perplexity in money-matters, which perhaps may make him more cautious of ſupplying the neceſſities of others, before he provides for his own.

☽ △ ☉ M. This aſpect brings freſh honour and reputation to the native; for under its influence he will experience the united recommendations and good offices of his friends. The direction comes up in May 1766, and holds on to the middle of October following, as may be ſeen in the Table of Directions belonging to this nativity, p. 689; in which ſpace Mr. Witchell has aſſured me he experienced the moſt remarkable inſtances of civility and friendſhip from ſeveral members of the Royal Society, and from other gentlemen of diſtinguiſhed merit.

☽ Z. P. ☿. This direction participates much of the benevolent nature of the preceding, and promiſes additional proſperity to the native in a moſt eminent degree. It prepares and fortifies his mind for freſh ſtudies, and influences a laborious application to books, and to experimental philoſophy. Under this direction we perceive the foundation of a journey, which will probably be taken in conſequence of ſome advantageous occurrence.

☽ * ☿. This and the foregoing direction have in many reſpects a joint influence, as they follow in ſo quick a ſucceſſion, and participate of the ſame benignant quality. This aſpect completes the good fortune begun by the former ☽ * ☿, under which he received a reward for his diſcoveries. The preſent benignant configuration, conſtituted with other rays, brings him a freſh inſtance of the approbation of his Royal Sovereign, who appoints him, under this direction, to the Maſterſhip of the Royal Academy at Portſmouth. This direction comes up in November 1766, and operates until the month of October 1767, at which time another direction ſucceeds. Mr. Witchell took poſſeſſion of his new-appointed office the 26th of March, 1767, when this direction was in its utmoſt force. And we might here trace the completion of that

journey, predicted under the laſt direction, which now conveys the native and his family to a new reſidence, in a different part of the kingdom. And, if we contemplate the quality and poſition of the correſponding ſignificators, with the affinity of Mercury and Venus, and the ſign they are poſited in, near the fortunate node of the Moon, we ſhall find that they exactly deſcribe the ſituation to which the native's family ſhould remove, and that their reſidence ſhould be permanent and proſperous.

☽ Sxq. ☿ M. This is likewiſe a proſperous direction, and ſtill continues the good effects of the former three. The native derives advantage and pleaſure from an acquiſition of new friends and acquaintance, addicts himſelf to literary purſuits, and is more ſtudious than for a conſiderable time before. Under this direction, as I ſince learn, he publiſhed his Mathematical Queries.

☉ ☌ ♀. The Sun to the conjunction of Venus, by converſe motion. Although this aſpect is fraught with ſome good, and gives the native an addition to his family by the birth of a daughter, yet the effect of its direction will bring to paſs ſome unpleaſant occurrences, particularly relating to the female part of his family, which is obvious in this configuration, by Venus being conſtituted lady of the eighth and twelfth houſes.

☽ ☍ ♃ M. This gives the native ſome fruitleſs journeys to ſeveral eminent perſons, from which he returns with no great ſhare of content. He will loſe money by ſome ſpeculative adventure; and, whatever ſcheme he ſets on foot under this direction, either for emolument or fame, will prove abortive, and eventually tend to his diſadvantage and prejudice. About this time, I find Mr. Witchell loſt a large ſum by adventuring in the lottery.

☽ □ ♃. This configuration is made in the zodiac, and participates of the ſame unfriendly quality with the laſt. The Moon is lady of the ninth, and Jupiter lord of the fifth and ſecond, whereby this direction will bring up loſs of ſubſtance to the native, by means of the non-ability of ſome quondam friend, or clerical perſon, to fulfil his engagements in money-concerns. It likewiſe argues the exertions of ſome private enemy, to blaſt the native's character and reputation, with regard to his friends and family. This occurrence, the native told me, he had too much reaſon to recollect, with heart-felt regret.

☉ P. ♂ M.

☉ P. ☍ M. The Sun to the parallel of Mars in Mundo. This direction promises to advance the native's professional character; Mars being the significator of his profession, exalted by a parallel from the Sun. Tranquillity and success accompany this direction, and under its influence the native will have a son go out to sea. Those in subordinate stations to the native will afford him satisfaction, and his servants and domestics will be found orderly and faithful. All things now go smoothly on, and his own wishes and desires are in almost every shape completely gratified.

☽ ☌ ♂. Under this direction the native suffers some uneasiness relative to his son's voyage. He will likewise experience some loss by a speculative adventure, which never can succeed under this aspect. An unpleasant disagreement appears very likely to happen in his family; and whatever friendship or connexion he forms under this configuration will prove faithless and vexatious.

☾ △ ♄ M. This configuration gives solidity and stability to the mind, consolidates the ideas, and influences an unusual seriousness of imagination, which, considering the phlegmatic temperature of the native, will most likely afflict him with lowness of spirits, nervous afflictions, and habitual melancholy. Under this direction, however, the native's mind will be engaged in a desire of purchasing some house or land, which will occupy most of the time this direction continues in force; and, whatever purchase he makes under it, will be advantageous and satisfactory to himself and his family.

☉ ☌ ♂. The Sun to the opposition of Mars, by converse motion. This is a malevolent direction, and imports no good to the native, thro' the means of some subordinate person, servant, or domestic, but which the native will detect and defeat. He will suffer a few weeks' illness, under a slow nervous fever, which goes off with the termination of this discordant aspect, and is succeeded by an indifferently good state of health, and celerity of spirits; which is demonstrated by the direction arising from the parallel of Mercury and Jupiter, which comes up immediately upon it, abating the evil, and removing the intemperate quality, by milder rays.

☽ ☍ ♀. This configuration is extensively good, and gives the native prosperity and success in all things which relate either to the ninth, fifth, or eighth, houses. Under this direction he takes a pleasant and profitable

profitable journey, as the ſatisfaction of ſeeing all his deſires proſper, and has peace, harmony, and content, in his own family, and good fellowſhip with his aſſociates and neighbours.

☉ △ ☽. This is a very excellent and proſperous direction, influencing a variety of favourable occurrences to the native, both in the line of his profeſſion and in the general approbation and regard of his ſuperiors and friends. The trine aſpect of the two luminaries, in eminent places of the horoſcope, is in all caſes to be regarded as a ſymbol of great good, and of an advantageous and honourable intercourſe, according to the birth and ſtation of the native, with ſome high and elevated perſons of rank and fortune. Had the native not been previouſly appointed to the ſtation he now filled, he would, under this direction, in all human probability, have obtained ſome ſimilar preferment, from the ſimilarity of the aſpects; but, as it was, the good effect of this direction was ſenſibly wrought upon him, ſince it introduced him to ſeveral noble perſonages, who at this time placed their ſons under his care and tuition, for the purpoſes of obtaining a nautical education.

♃ ☍ Aſc. Jupiter to an oppoſition of the aſcendant. This direction impairs the native's health, alters the ſtate of his blood, and induces a bilious complaint in the bowels. He will moſt likely ſuffer by ſome diſputation or diſagreement with an acquaintatance, and perhaps experience a very unpleaſant embarraſſment on the occaſion, with loſs of ſubſtance.

☽ △ ⊕M. The Moon to the trine of the Part of Fortune in mundo. This configuration always forebodes increaſe of fortune, ſucceſsful enterprize, benefit in ſpeculation, and proſperity in buſineſs. Under this direction the native experienced a great ſhare of eſtimation from his ſuperiors, and felt the emoluments ariſing from it.

♄ P. ♀ M. This direction imports death to ſome female in the native's family; and, as Venus is conſtituted lady of the ſeventh houſe, with cloſe affinity to the native in his radical figure, it is moſt probable he will loſe his wife; it is apparent, however, that this configuration will produce him much anxiety and perturbation of mind, with depreſſion of ſpirits and deep melancholy.—Upon enquiry, I found that Mrs. Witchell really died under this direction.

☽ Smq. ♃ M.—☉ M. P. ☽. The Moon to the ſemiquartile of Jupiter in Mundo; and the Sun to the mundane parallel of the Moon.

Theſe are both propitious directions, and preſage a continuance of much good to the native. He will proſper in all undertakings in the way of his profeſſion, will receive freſh marks of the approbation and attention of his friends, and will riſe in the eſtimation of ſome high and noble patron; whereby his ſpirits will be exhilarated and his melancholy removed. Theſe pleaſing circumſtances alternately occured during the time theſe directions contributed their influence, which laſted in a more or leſs powerful degree, from the beginning of November, 1778, to the month of September, 1779, when their effects totally ſubſided.

Aſc. * ♄. This direction is armed with the moſt ſerious affliction to the native of any thing that hath yet gone before it. It is the harbinger of ſome ſudden diſeaſe that threatens life. And, if we conſider the radical import of this aſpect, taken collectively with the irradiations of the other planets, and their reſpective poſitions and particular places in the figure, as they ſtand influenced and impregnated with the ambient quality of the ſigns, we can have no reaſon to heſitate in our judgment, that this affliction will fall as it were inſtantaneouſly, and that it will come by ſome defect in the animal circulation, or in the functions of the brain, whereby ſenſation will be deſtroyed, memory obliterated, or bodily motion withheld; but the moſt probable effect of the three ariſes from the ſuperior dignity of Saturn, who governs this aſpect; and, as he rules the retentive faculty of man, it becomes pretty evident that this diſorder ſhould be a fit of the palſy, falling upon the brain, whereby the native ſhould ſuffer a privation of ſenſe and motion, particularly deſtructive to the ideas of the mind, and to the force of memory. Under this direction Mr. Witchell really had the misfortune to fall down in an apoplectic fit, which held him for ſome time in a ſtate of perfect inſenſibility, deprived of ſight and motion, and of every viſible appearance of life. When circulation was reſtored, and pulſation returned, the native became ſenſible to pain, and re-poſſeſſed all the functions of the body; but his memory continued for ſome time wholly arreſted, and was ever after greatly impaired: his whole frame felt the ſhock, and his conſtitution was viſibly ſtruggling with it, during the full time of this direction. Our recovery, indeed, from all complaints influenced by Saturn is uſually ſlow; but particularly ſo, when they are occaſioned almoſt entirely by his own malignant influence, unabated by milder rays.

♂ △ ♀ M.

☿ △ ☽ M. This direction is of a more grateful quality, giving the native cheerfulneſs, and removing in ſome meaſure his habitual melancholy. This direction naturally inclines the fancy to women, and incites amorous deſires; and I have no doubt but the native, even under an impaired conſtitution, and a confirmed nervous habit, was more than ordinarily awakened to theſe deſires during the operation of this aſpect. It was, nevertheleſs, too indelicate a queſtion for me to put, however my curioſity might have been excited by the viſible deſignation of the planets, or however anxious I might have been to juſtify the directions of a nativity which were intended for public ſcrutiny.

☽ △ ♂ M. This direction participates extremely of the quality of the foregoing, and they operate in many inſtances with a joint influence, being both from aſpects made in the world, and coming up nearly together. The native hath certainly ſtrong predilections in favour of ſome particular female; and, if his conſtitution was not ſomewhat impaired, and his mind pretty much engroſſed by other concerns, I have no kind of doubt but he would have married again while this direction operated; but, though it gives a radical import of ſuch an event, yet when we come to conſider it maturely with the quality of other planets, whoſe horoſcopical places at the birth give them a concern in the completion of ſuch an event, we ſhall find ſome few arguments wanting to give it a complete turn in favour of a ſecond matrimonial engagement. But that the native had ſtrong prepoſſeſſions that way, I have not the leaſt doubt, and with a lady who perhaps is now living, and might confirm the truth of my remark.

Aſc. △ ♂. This direction is naturally good, inclining the native to fortitude and perſeverance, and gives animation to the ſpirits, and vigour to the mind. He will, however, be ſomewhat abſolute and arbitrary under it, particularly in his own family, and with his more immediate domeſtics and dependents. With reſpect to bodily infirmity, he will feel an affliction of choler, and a feveriſh tendency, induced by the quality of Mars, who has borne rule in the three laſt directions; and, by thus encreaſing the energy of his influence upon the ſpirits, will leave them ſubject to a ſlow nervous fever, deſtructive to the radical moiſture of nature, and to the free circulation of the blood and juices.

☉ Q. ♄ M. This direction is the forerunner of a worſe. It is not a configuration that deſtroys life; but it is one that unhinges the nervous ſyſtem, and reduces the native to a painful ſtate of hypochondriacal melancholy.

melancholy. It is a remarkable circumſtance, that Saturn and the Sun ſhould from the laſt aſpect in this nativity, which precedes that of death; and that of the Sun, being *anareta*, no ſooner ſeparates from Saturn, the moſt malevolent planet, than he applies to and receives the Part of Fortune, which is *hyleg*. Neither is it leſs curious to remark the gradual fatality which is here brought on and announced to the native. Mars, the leſſer infortune, occupies the chief influence of the three directions which operate prior to this; and he no ſooner retires, than he is ſucceeded by the greater infortune, Saturn, who gives place to the Sun, the *anareta*. And thus, operating by a gradual yet ſenſible influence, from a leſs to a ſuperior ſtate of infirmity, brings on that inevitable and final deſtiny, which gives every good and virtuous individual "a place amongſt the gods."

☽ ☌ ☉. In this direction, therefore, we ſee the two principal ſignificators of life and death, which were conſtituted in the radical figure of birth, form that fatal configuration, which, in all countries, and in all nativities, is uniformly the ſame. The one, at the moment we enter into this world, is conſtituted hyleg, that is, giver or protector of life, becauſe we were formed and nouriſhed in the womb under the influence and temperature of that particular planet, and becauſe it guards us in every peril of our earthly pilgrimage. The other is in the ſame early period conſtituted anareta, or deſtroyer of life, becauſe it is tempered by its horoſcopical poſition, with qualities diametrically oppoſite to the hyleg; and becauſe, whenever it can form an evil configuration with the hyleg, it will deprive it of all its power and efficacy, and overcome its preſerving faculty, by a ſuperabundant energy of oppoſing matter, which nothing leſs than a ſupernatural cauſe can either alter or prevent. And therefore, when that certain cauſe, that vegetative faculty, which ſupports nature and ſuſtains life, is thus overwhelmed by a redundancy or ſuperiority of matter or influence, incompatible with, and contrary to, itſelf, its exiſtence becomes annihilated, and the native dies. Thus it is in the preſent caſe. The Sun, in this nativity, being conſtituted of a direct oppoſite quality to the Part of Fortune, will, whenever they form an oppoſition or quartile aſpect, abſorb its power, and deſtroy its influence; in which caſe, whatever be the thing that was nouriſhed or brought into being under it, it will be deſtroyed likewiſe.

If we regard, with a critical eye, the preſent figure of birth, we ſhall find every proof of thoſe oppoſing qualities in theſe two ſignificators,

tors, that conſtitute the *hyleg* and *anareta*; but the number of days, weeks, months, or years, which theſe two ſignificators will occupy before they meet or form this diſcordant aſpect, can only be known by equating the arch of direction which brings them into contact. This I have done in p. 685, where it appears, that theſe two ſignificators were fifty-ſix years and ten months in coming to this poſition in the heavens, from their reſpective places or poſitions at the time of the native's birth; and it is a fact too well eſtabliſhed to admit either doubt or refutation, that the native died with a ſtroke of the palſy, which this aſpect deſcribes, on the 29th of January, 1785, at which time he was exactly fifty-ſix years and ten months old!

Thus it is apparent, that, however unaccountable or undefinable theſe planetary irradiations might appear, they certainly are what the Supreme Author of all things originally intended them to be, the natural and efficient cauſes of thoſe ſtrange and complicated mixtures and affections in men, which have confounded the ſpeculations of the wiſeſt philoſophers. And I am perſuaded that no man, unleſs it be thoſe who are wilfully obſtinate, can heſitate in forming his opinion of the truth of theſe premiſes; particularly after obſerving that no remarkable incident of this native's life ever happened, but under the uniform influence, and as it were by the conſent, of one or other of theſe directions, the defining of which conſtitutes the only true and rational mode of predicting by, or of calculating, nativities.

But, before I diſmiſs this ſubject, and in order to render every part of the ſcience as plain as poſſible, it will be proper, in this place, to explain what is meant by Revolutions and Tranſits. A revolution is a returning or revolving back of any one of the celeſtial bodies to the ſame place or point in the heavens from whence it firſt receded; for ſo the word radically imports. But, in our application of it to explain or illuſtrate any particular circumſtance in a nativity, it uſually refers only to the return of the Sun to his radical place in the zodiac, that is, to the ſame degree and minute of the ſign wherein he was poſited in the hour of birth. For the truth is, that revolutions and tranſits more properly appertain to the fate of empires than to the circumſtances of a nativity. It has, however, been found, by eſtabliſhed obſervation and long practice, that the revolutions, not only of the Sun, but of all the other principal ſignificators in a nativity, to their radical places in the horoſcope, excite a very powerful additional influence in the aſpects and directions then operating, whether of a good or evil nature; but

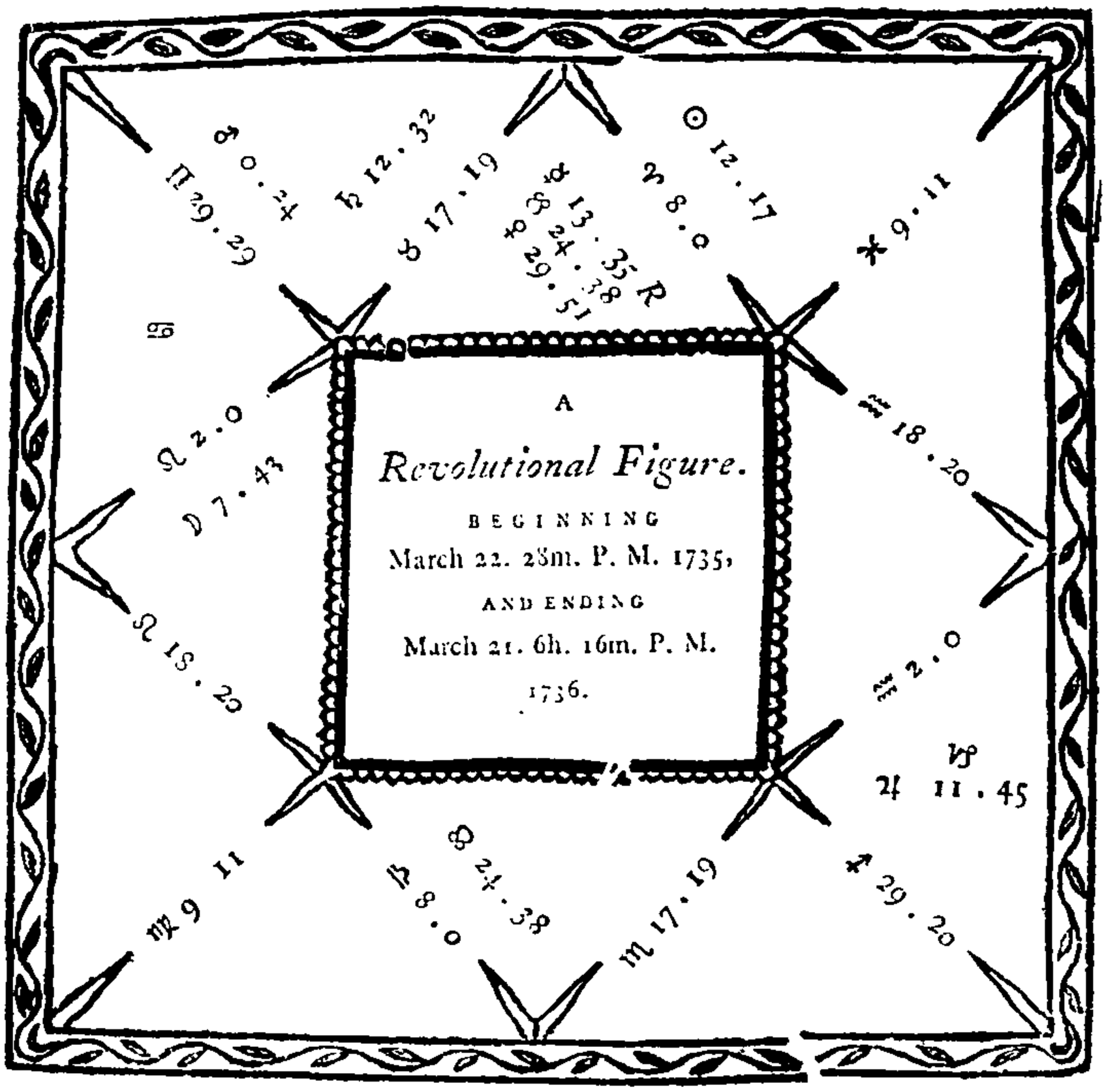
more particularly when the planet, ſo falling into its radical point, participates ſtrongly of the ſame quality and temperature as the configuration or direction then in force. And hence it is uſual for every judicious proficient in this art, when he is calculating and bringing up the directions of a nativity, to erect revolutional figures through the whole period of the native's life, in order to obtain the moſt ſatisfactory information in the probable or poſſible means, whereby any important direction, whether good or bad, might be increaſed or diminiſhed in its natural quality and import, by the falling in of the revolution of any other ſignificator, or of any particular planet tranſiting the place, under the influence of which the cuſtomary effect of the direction may be varied.

The uſual way of erecting a revolutional figure is by adding five hours and forty-eight minutes to the exact time of the native's birth for every year's revolution; and, when the aggregate exceeds twenty-four hours, the twenty-four are to be caſt away. For example, I would ſet a revolutional figure of Mr. Witchell's birth. Now the the time of the day on which he was born was ſeven hours fifty-two minutes in the afternoon. The figure of birth, it muſt be obſerved, ſtands for the firſt year; conſequently the firſt revolutional figure to be ſet for the native exhibits the poſitions of the luminaries and planets for the ſecond year of his age; and the ſeventh alſo anſwers from the ſeventh to the eighth; and therefore, if we add five hours forty-eight minutes for every year, caſting away the aggregate of twenty-four hours as often as they occur, we ſhall uniformly obtain the preciſe ſituations and poſitions of the planets for the year required.

	h.	*m.*
Thus, ſeven times five hours forty-eight minutes is	40	36
From which ſubtract — —	24	0
And there remains — —	16	36
To which add the hours from noon on the day of the native's birth, viz. — — —	7	52
And the ſum will be — —	24	28

From this ſum the twenty-four hours are again to be caſt away, and the Table of Houſes is to be entered with twenty-eight minutes, under the title of *Time from Noon*, in the ſame manner as before directed for erecting the horoſcope; and the heavenly bodies will be found to diſplay themſelves in the following manner:

Having



Having delineated the figure, we are to examine how it agrees with the radix, or original figure, of birth, and whether it be in ſextile, trine, or oppoſition, to it; and alſo what planets make their return to their own radical places, or to the radical places of others; and alſo whether the luminaries be well beheld by the benefics, or afflicted by the rays of noxious planets, or by the ſixth, eighth, or twelfth, houſes of the radical figure of birth; or whether Saturn or Mars afflict the places of the Sun, Moon, or aſcendant of the radix, or whether there occur any eclipſe either upon or near the radical places of the three Hylegiacals; for, according as theſe circumſtances are found, ſo will the affairs of the native be either injured or advantaged, and his health either impaired or eſtabliſhed, as the caſe ſhall happen to be. For, if unbenign occurrences in the revolution fall in with qualities and rays of the ſame diſcordant nature in the radix, evil and affliction will be predicted, in proportion to the ſtrength and qualities of the ſignificators;

tors; and, on the contrary, if grateful and benign influences thus concur, and mutually aid and unite in benevolent temperatures, then great and lafting good, according to the different natures of the planetary cauſes and effects, will undoubtedly take place. But, to make this ſomewhat more familiar to the reader's underſtanding, I ſhall give a few general rules, whereby judgement may be determined in other caſes.

Whenever the hyleg, or giver of life, whether it be the Sun, Moon, Part of Fortune, or Aſcendant, in the radix or genethliacal figure of birth, is found to behold its pl ce in the revolutional figure, by form- in a ſextile or trine aſpect with each other, it is conſidered a viſible argument that the native ſhall, during that year, enjoy health of body, and that his affairs will in a general way go well; but, if this aſpect be made by a quartile or oppoſition, the contrary effects are denoted. So if the Moon, in both the radix and revolutional figure, be free from the malignant rays of the infortunes, and not combuſt, it is likewiſe an argument of an healthful and proſperous year, more eſpecially if ſhe be configurated with benefic ſtars. But, if the Moon be combuſt, or afflicted with the malefic rays of Saturn or Mars, it will prove an unlucky and ſickly year.

If, in the revolutional figure, an eclipſe or comet ſhould fall upon the aſcendant, it threatens a year of great trouble and anxiety to the native. But, if the eclipſe in the revolutional figure, whether of the Sun or Moon, ſhould fall exactly in the ſame degree as the hyleg, or giver of life, in the r dical figure of birth, and any violent configuration of the malefics ſhould begin to operate at the ſame time, it will, in all probability, affect the native's life, by encreaſing the malignancy of the aſpect, and heightening the violence of the means, whatever it may be, by which life is threatened. So, if an eclipſe of the Sun ſhould in like manner fall in the ſame degree and minute of the Dragon's Head, it alſo endangers life; but, if it only falls near the ſame point, it then threatens danger or diſeaſe in that year, but not ſuch as ſhould touch life.

If in the revolution the Part of Fortune falls in the ſame degree as in the radix, it is implicative of the ſame effects, and will tend to facilitate them in a more eminent and obvious manner; and, if it happens that this poſition falls in a good aſpect with its diſpoſitor, it will greatly tend to encreaſe the native's wealth or ſubſtance during that year; but, if the aſpect be made with maleſic rays, and the horoſcopical poſition of

of the Part of Fortune in abject places, it portends a direct contrary effect. It is, however, always to be remembered, that any planet ſtrong and eſſentially dignified in a revolution, and at the ſame time in good aſpect with the Part of Fortune, or with the lord of the ſecond houſe, or with Jupiter, Venus, or the Moon in reception, uniformly preſages good fortune to the native during that year.

If the Sun be in the firſt houſe, mid-heaven, or eleventh houſe of the revolutional figure, in good aſpect with Jupiter or Venus in the radix, and free from the unbenign radiations of the infortunes, it denotes an increaſe of honour and reputation, of reſpect and eſteem, during that year, although no direction whatever ſhould be then operating to increaſe its influence. So Jupiter, well configurated in the aſcendant, or in Piſces, Cancer, or Sagittarius, indicates the ſame, according to the quality and occupation of the native; but he denotes honour and eſteem in a much more eminent degree when poſited in the medium cœli. Or, if the revolutional aſcendant be the place of the Dragon's Head in the radix, and irradiated by Jupiter, it likewiſe promotes honour, and encreaſes worldly eſteem; and ſo, *vice verſa*, if the aſcendant of the radical figure of birth be the place of the Dragon's Head in the revolution, it denotes the ſame.

If in the revolutional figure the luminaries are conjoined in the ſeventh or fourth houſe, it preſages death either to the father or mother of the native; more eſpecially if their places in the radical figure be likewiſe infortunated by malignant rays. If Saturn be found to afflict the Sun by quartile or oppoſition, or by conjunction in one of the angular houſes, it is an argument that the father ſhall make his exit, but, if the Moon be thus afflicted by Saturn, with relative poſitions in the two horoſcopes, it preſages death to the mother; for in theſe caſes the Sun is natural ſignificator of the father, and the Moon of the mother; and, when thus configurated in a revolutional figure, they forebode death to happen within the year.

Whenever the lord of the fifth is poſited in the aſcendant, or the lord of the aſcendant in the fifth houſe of the revolutional figure, and in a fruitful ſign, with due affinity to the radix, it is a moſt propitious configuration to give the native iſſue, if married; but, if ſingle, it will be a very dangerous year to the native, by intercourſes with the other ſex.—If the native be a male, he will moſt probably have an illegitimate offſpring to provide for; but, if a female and a virgin, ſhe will rarely

eſcape ruin, and will probably become the unprotected mother of an unfortunate orphan. This aſpect is therefore to be regarded with the utmoſt attention, and reſiſted with becoming fortitude and reſolution by both ſexes.

If the lord of the fifth be poſited in the twelfth, (it being the eighth from the fifth,) in ſimilar aſpect to the radix, it threatens death to the native's children. So likewiſe if Saturn or Mars, or the Dragon's Tail, be poſited in the fifth houſe of the revolutional figure, in evil aſpect with the radix, it forebodes death to the native's iſſue in the courſe of that year. Or if Saturn or Mars afflict the fifth houſe or its lord by conjunction, quartile, or oppoſition, it implies the ſame.

Whenever the lord of the aſcendant, in the revolutional figure, is poſited in the ſeventh houſe, and comes by direction to the radical place of Venus in the figure of birth; or if the lord of the ſeventh, in the revolution, is brought by direction to the aſcendant of the radix, they afford ample proofs that the native will marry in the courſe of that year. Or if Jupiter, Venus, the Moon, or Part of Fortune, be thus irradiated, it denotes a propenſity in the native to contract matrimony, although circumſtances might occur to prevent it.

Whenever Saturn is poſited in the ſeventh houſe of the radix, and found alſo in the ſeventh houſe of the revolution, it threatens death to the native's wife before the expiration of that year. Mars and the Dragon's Tail thus configurated, imports little leſs. Mercury, if afflicted by the malevolents, and in the ſeventh houſe, declares much danger to the native; but, if configurated with Venus, under the ſame malignant rays, it threatens miſchief both to the native and his wife.

Mars, Mercury, and Venus, being the proper ſignificators of profeſſion, if they are afflicted in the revolutional figure, with direct affinity to the ſame places in the radix, preſage great ſorrow and embarraſſment to the native in his line of buſineſs during that year. But a comet or eclipſe falling upon the mid-heaven of the radix and revolution, irradiated by the good aſpects of either the Sun or Mars, will produce a very proſperous year to the native, and will bring him honour and preferment.

Thus far we have conſidered the general tendency and import of the ſeveral ſignificators in a revolutional figure, as they are connected with

or behold the radical figure of birth. There is now another effect to be conſidered, which the erratic ſtars produce by their reſpective motions round the Sun, which are called tranſits, that is, a returning to or re-aſſuming either their own place, or the place of any other planet in the revolutional figure, ſo as exactly to correſpond with their radical places in the figure of birth. Theſe tranſits, when of a remarkable or eminent nature, always produce an effect or influence of their own, peculiar to the nature and quality of that particular ſtar by which ſuch tranſits are made; but whenever they fall in places of the figure, or in configuration with other planets, where a direction is coming up, or any diſtinct aſpect then operating, they never fail to co-operate with, and give additional force and efficacy to, ſuch aſpects or directions, whether good or evil, as the caſe and quality of the ſeveral ſignificators ſhall happen to be. And for this reaſon it is highly proper, whenever the ſpeculum of a nativity is projected, and the various directions brought up, to examine what tranſits are likely to occur in the courſe of the native's life that may poſſibly vary the effect of any particular direction; and, conſequently, of the incidents or events predicted thereby, as likely to happen to the native. For this reaſon I have annexed a few general obſervations, calculated to direct the reader's judgment under this ſpeculation.

When Saturn returns to or tranſits his own radical place in the revolutional figure, well dignified, he indicates proſperity to the native; and, if he be lord of the aſcendant either in the radical or revolutional horoſcope, he will render that proſperity ſtill more excellent and conſpicuous. If Saturn tranſits the radical place of Jupiter, propitiouſly configurated, it denotes increaſe of fortune by the favour of eminent men; if he tranſits the place of Mars, it gives advantages from friends or brethren; and, if theſe tranſits are made with evil configurations, the contrary evils will be produced.

When Saturn tranſits the place of the Sun, it is implicative of ſome ſtrong or violent contention with magiſtrates, or with men in power, in the courſe of that year; and, if accompanied with aſpects of diſeaſe, will produce bodily ſickneſs and infirmity. If Saturn tranſits the place of Venus, it demonſtrates infelicity from a female cauſe; if the place of Mercury, it implies advantages from ſtudy; if the place of the Moon, it declares affliction both of the body and mind; if the place of the Dragon's Head, it tends to promote the native's good fortune; but, if Saturn tranſits the place of the Dragon's Tail, it has a moſt dangerous

dangerous and malignant tendency. If the place of the Part of Fortune be tranſited by Saturn, with benevolent rays, it denotes encreaſe of ſubſtance and eſtate; but, if by evil rays, the contrary effect will be produced.

Preciſely the ſame is the reſult of all the other ſignificators tranſiting their own or other planets' places in the radical or revolutional horoſcopes; with only this invariable diſtinction, that the effects vary according to the nature, quality, and temperature, of each reſpective planet, and to the radiations and aſpects formed with them, or to the directions then operating; for revolutions or tranſits of a benevolent and friendly nature, falling in with good directions then operating, will viſibly increaſe their propitious quality, and greatly benefit the native; whilſt, on the other hand, revolutions or tranſits of an evil deſignation, falling in with noxious and malignant directions, will encreaſe the evil, or deſtroy life. But good revolutions or tranſits falling in with bad directions mollify their malignancy; whilſt evil ones, oppoſed to good directions, leſſen the good fortune then operating, and deprive the native of the full completion of thoſe golden advantages which perhaps appeared almoſt within his graſp.

To diſcover the preciſe time when any event or direction ſhall take place in a revolutional figure, we direct the five hylegiacals, as in the radix; always obſerving, as it is for the year enſuing, to direct the temporary progreſs of the zodiac for five hours forty-eight minutes. For inſtance, ſuppoſe the cuſp of the medium cœli hath one degree of Gemini, that point is to be directed to every aſpect that falls between that one degree and twenty-four degrees of Leo; and alſo, if the aſcendant hath at the ſame time eight degrees of Virgo, it muſt be directed to all promittors between that point and nine degrees of Scorpio, becauſe that point will be upon the cuſp of the aſcendant for the enſuing year, and Leo will occupy the mid-heaven. In like manner the Sun, Moon, and Part of Fortune, muſt be directed unto their promittors, always remembering, that the diſtance of a planet from the aſcendant is found by oblique aſcenſion, and from the mid-heaven by right aſcenſion. But, when one planet is directed to another for the purpoſe of aſcertaining tranſits, their diſtances from each other are found, by oblique aſcenſion or deſcenſion, under the pole of that planet which is taken for ſignificator; and the diſtance which is thus given by degrees muſt be converted into time, by entering with the given denomination of degrees into the following Table:

A RE-

A REVOLUTIONAL TABLE.

A Table for Degrees.			A Table for Minutes.					
Deg.	Days.	h. m.	m.	Days.	h. m.	m.	Days.	h. m.
1	4	4 56	1	0	1 41	31	2	4 9
2	8	9 52	2	0	3 22	32	2	5 50
3	12	14 48	3	0	5 3	33	2	7 31
4	16	19 44	4	0	6 44	34	2	9 12
5	21	0 40	5	0	8 25	35	2	10 52
6	25	5 36	6	0	10 6	36	2	12 33
7	29	10 32	7	0	11 47	37	2	14 14
8	33	15 28	8	0	13 28	38	2	15 55
9	37	20 24	9	0	15 9	39	2	17 36
10	42	1 20	10	0	16 50	40	2	19 17
11	46	6 16	11	0	18 31	41	2	20 58
12	50	11 12	12	0	20 11	42	2	22 39
13	54	16 8	13	0	21 52	43	3	0 20
14	58	21 4	14	0	23 33	44	3	2 1
15	63	2 0	15	1	1 14	45	3	3 42
16	67	6 56	16	1	2 55	46	3	5 23
17	71	11 52	17	1	4 36	47	3	7 4
18	75	16 48	18	1	6 17	48	3	8 45
19	79	21 44	19	1	7 58	49	3	10 26
20	84	2 40	20	1	9 39	50	3	12 7
22	92	12 32	21	1	11 20	51	3	13 48
24	100	22 24	22	1	13 1	52	3	15 29
26	109	8 16	23	1	14 42	53	3	17 10
28	117	18 8	24	1	16 23	54	3	18 51
30	126	4 0	25	1	18 4	55	3	20 32
40	168	5 20	26	1	19 45	56	3	22 13
50	210	6 40	27	1	21 26	57	3	23 54
60	252	8 0	28	1	23 7	58	4	1 35
70	294	9 20	29	2	0 48	59	4	3 16
80	336	10 40	30	2	2 28	60	4	4 56
87	365	21 12						

A TABLE,

Collecting all the Days of the Year, and ſerving ſucceſſively to find the Month and Day of any Accident.

Days	January	February	March	April	May	June	July	August	September	October	November	December
1	1	32	60	91	121	152	182	213	244	274	305	335
2	2	33	61	92	122	153	183	214	245	275	306	336
3	3	34	62	93	123	154	184	215	246	276	307	337
4	4	35	63	94	124	155	185	216	247	277	308	338
5	5	36	64	95	125	156	186	217	248	278	309	339
6	6	37	65	96	126	157	187	218	249	279	310	340
7	7	38	66	97	127	158	188	219	250	280	311	341
8	8	39	67	98	128	159	189	220	251	281	312	342
9	9	40	68	99	129	160	190	221	252	282	313	343
10	10	41	69	100	130	161	191	222	253	283	314	344
11	11	42	70	101	131	162	192	223	254	284	315	345
12	12	43	71	102	132	163	193	224	255	285	316	346
13	13	44	72	103	133	164	194	225	256	286	317	347
14	14	45	73	104	134	165	195	226	257	287	318	348
15	15	46	74	105	135	166	196	227	258	288	319	349
16	16	47	75	106	136	167	197	228	259	289	320	350
17	17	48	76	107	137	168	198	229	260	290	321	351
18	18	49	77	108	138	169	199	230	261	291	322	352
19	19	50	78	109	139	170	200	231	262	292	323	353
20	20	51	79	110	140	171	201	232	263	293	324	354
21	21	52	80	111	141	172	202	233	264	294	325	355
22	22	53	81	112	142	173	203	234	265	295	326	356
23	23	54	82	113	143	174	204	235	266	296	327	357
24	24	55	83	114	144	175	205	236	267	297	328	358
25	25	56	84	115	145	176	206	237	268	298	329	359
26	26	57	85	116	146	177	207	238	269	299	330	360
27	27	58	86	117	147	178	208	239	270	300	331	361
28	28	59	87	118	148	179	209	240	271	301	332	362
29	29		88	119	149	180	210	241	272	302	333	363
30	30		89	120	150	181	211	242	273	303	334	364
31	31		90		151		212	243		304		365

Whether the directions be radical or revolutional, the table in the foregoing page will ſerve equally for both, by changing the names of the months to any other, according to the given day of the month of any nativity, making the day of birth the firſt day of the year; and always remembering, that when it happens to be leap-year, one day muſt be added to February, and there will then be three hundred and ſixty-ſix days in that year.

I have now completed every remark and every inſtruction that is or can be neceſſary for the perfect calculation of nativities; and I am bold to ſay, that whoever will beſtow ſufficient time and application to the rules I have laid down, and that will attend properly to the collateral circumſtances, will find no difficulty in obtaining a foreknowledge of all material events relating to himſelf, or to any other perſon, whoſe real nativity is laid before him. I have, in the management of the foregoing nativity of Mr. Witchell, been particularly plain and copious, that no underſtanding might go uninformed, as well of the ſimplicity and verity of the art, as of its moral tendency to promote the good of mankind, and the certainty with much human events might be fought out through its means.

Every thing I have ſtated with reſpect to Mr. Witchell's nativity is incontrovertible fact. That gentleman, when in perfect health, and in full vigour of mind, reſorted to me for no other purpoſe than to hold diſputations upon the rudiments of the ſcience, and to inform himſelf as to its hypotheſis and probability in the ſcale of reaſon and ſcience. The more he enquired, the more convinced he was of planetary influence and effect. He proceeded from theory to practice. He amuſed himſelf with a variety of diſquiſitions upon the different branches of the art, and had the pleaſure to find, that, in all caſes where truth and perſpicuity were the baſis of his enquiries, there were no inſtances of doubt or deception in the predictions reſulting from them. Well grounded in all the common departments of aſtronomy, he obtained an extenſive theoretical knowledge of this part of it with the greater facility; and, to reduce it to regular practice, he began with calculating his own nativity. In comparing the aſpects with the particular incidents of his life, he was ſoon convinced they were inſeparable from each other; and hence it was that he committed the reviſion and completion of it to my care, with a firm and manly ſolicitation to have the anaretical direction brought up and aſcertained, as well as thoſe of ſmaller magnitude and importance. This was a taſk I performed with the greater

greater ſatisfaction, becauſe it was to undergo the ſcrutiny of the moſt perfect mathematician of age; and becauſe his conviction and approbation of it would ſtamp new reputation upon a ſcience, which, having few or no real advocates, has been long borne down by popular prejudice and obſtinate declamation. Having performed every part of the calculation with an exactitude that highly pleaſed him, he made uſe of it as a friendly monitor of the good and evil that awaited the reſidue of his days; and, when he approached towards the ſtated time of his diſſolution, he would mention it without the ſmalleſt emotion, and conſidered the knowledge of it as one of the greateſt bleſſings of his life, which not only drew his attention to his Maker, and fixed his thoughts upon celeſtial deſires, but raiſed his mind above the contemplation of earthly enjoyments, and gave ſerenity and calmneſs to his converſation and deportment. It was on one of theſe occaſions, that he requeſted me to print his nativity in my work, which I began to publiſh ſome little time before; obſerving that the evidence of ſo recent and reſpectable a proof of aſtrological prediction might tend to bring mankind to reaſon, and admoniſh them no longer to abandon this ſublime and intereſting branch of knowledge.

And now, what need can there be of further argument in ſupport of ſo ſelf-evident a doctrine? or what advantage could it poſſibly be to me, or to any diſintereſted man, to preach up the advantages of a ſcience which hath no exiſtence in reaſon or in truth? The facts here laid down are unqueſtionable; and ſuch, I think, as no reaſonable man will attempt to refute. If farther proofs are required, I ſhall at all times be ready to furniſh them, or to explain any matter or thing herein-before laid down that might be deemed unintelligible, or that is not thoroughly underſtood; at the ſame time that, if any obſtinate unbeliever, or any other deſcription of men, can offer a fair and candid argument in oppoſition to aſtral influence, I ſhall be ready to hear them with reſpect and attention. Wretched indeed ſhould I be, if, after every precaution to guard myſelf againſt the encroachments of enthuſiaſm, I ſhould fall a victim to its phrenzy, or be deemed a madman or a fool: at the ſame time let me not ſhut my eyes againſt demonſtrable facts, merely becauſe the bulk of mankind chuſe to diſcountenance them, or determine to become wilfully blind. I have examined, and am convinced; and I truſt I have ſufficiently eſtabliſhed the reality of this ſcience; and have abundantly ſhewn that the ambient matter, collected by the rays of the celeſtial bodies, and communicated by a ſympathy of action to all ſublunary things, is the cauſe of all thoſe unde-

undeſcribable occurrences in human nature, which, for want of a more clear comprehenſion of the wonderful works of creation, are frequently attributed to cauſes, which call in queſtion the benign attributes of the Deity, and diſgrace the underſtanding of the meaneſt of his creatures upon earth.

It hath been contended by ſome, in oppoſition to that part of aſtrological doctrine which determines the bodily form and mental diſpoſition of the native from the ſeveral ſignificators in his own and in his parent's genethliacal figures, that this likeneſs or ſimilitude in body and temper is ſtamped by the energy or idea of the parents in the act of copulation. Although I am willing to admit this obſervation in part, yet I contend that the primary cauſe, which furniſhes that energy or motion in the parents, is derived from their reſpective ſignificators in the heavens; and that they impreſs their particular quality in proportion as they happen to be in dignity and power at that preciſe time. If the ſignificators of the mother are then ſuperior in force and dignity, the mother's features and diſpoſition will be moſt viſible; if the father's geniture be the ſtrongeſt, the father's temper and ſimilitude will be moſt predominant in the offſpring then begotten; but, if both their ſignificators are equally ſtrong, the child then equally participates in the likeneſs and diſpolition of both his parents. Let it nevertheleſs be remembered, that, however ſtrong the ſignificators of both or either of the parents might be, yet thoſe proper to the fœtus or conceptional matter invariably take the lead, and ſtamp that peculiar form and temperature upon the native, which in a great meaſure ſupplant the firſt impreſſions given by thoſe of the parent, and form a perſon and mind eſſentially differing from both, though with ſome veſtiges of hereditary ſimilitude. And hence the reaſon why ſons and daughters more or leſs depart from the ſtature, features, complexion, and temper, of their parents; and why no two human beings, in the whole compaſs of generation were ever yet formed preciſely alike! If, therefore, the man lives, who can fairly and completely refute this argument, he ſhall have my thanks and my applauſe. And I will add further, in the emphatic words of an unrivalled author, that "My heart is already with "him. I am willing to be converted. I admire his morality, and "would gladly ſubſcribe to the articles of his faith. Grateful, as I am, "to the good Being whoſe bounty has imparted to me this reaſoning "intellect, I hold myſelf proportionably indebted to him, from whoſe "enlightened underſtanding another ray of knowledge communicates "to mine. But neither ſhould I think the moſt exalted faculties of

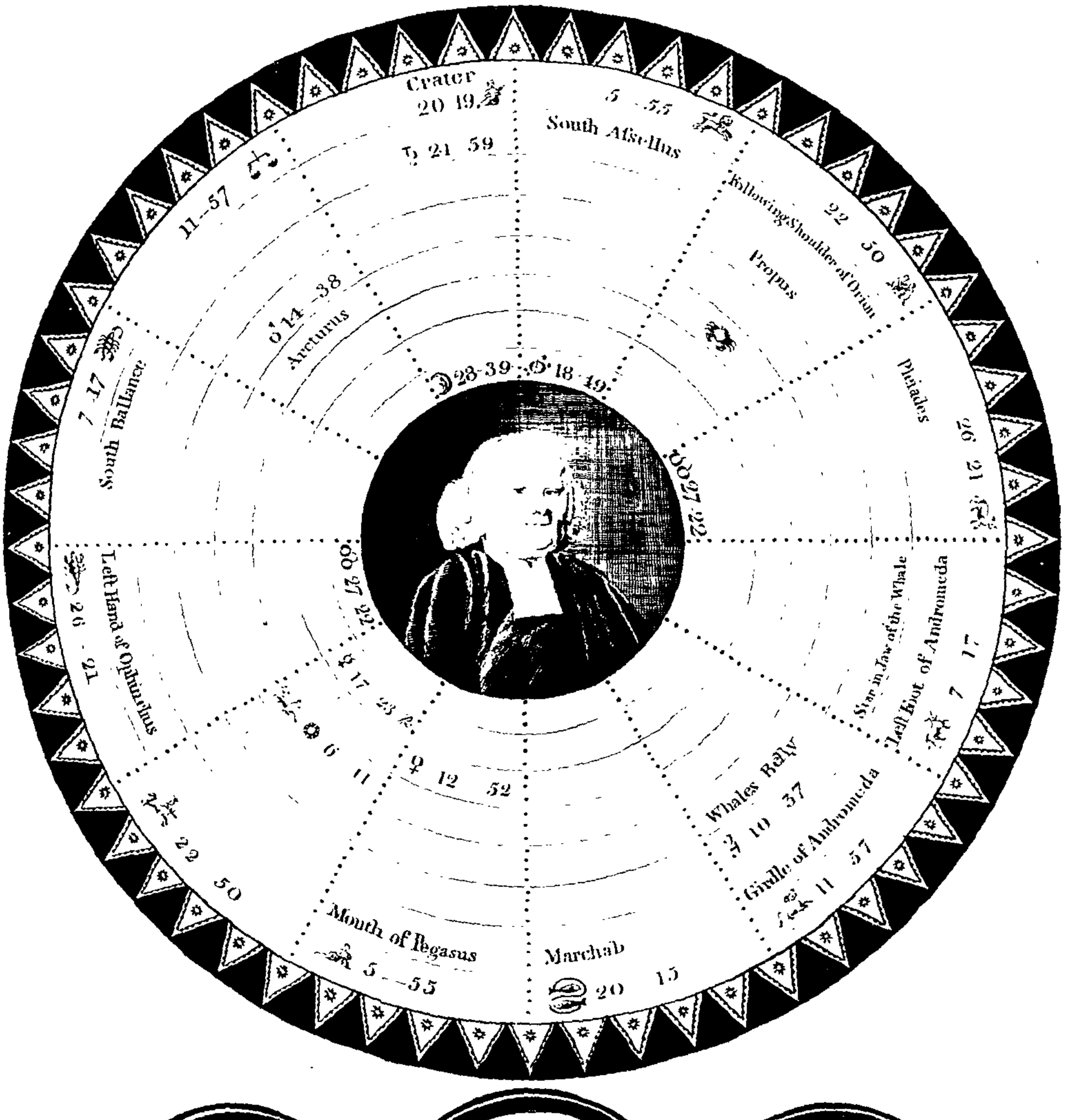
"the human mind a gift worthy of the divinity, nor any assistance, in "the improvement of them, a subject of gratitude to my fellow-creatures, "if I were not satisfied, that really to inform the understanding corrects "and enlarges the heart."

OBSERVATIONS on the NATIVITY of the Rev. GEORGE WHITFIELD, M. A.

I shall now, agreeable to the plan I have before laid down, introduce, by way of example, a number of remarkable genitures, in order to shew that the aspects of the planets, and the influence of directions, are uniformly and invariably the same in all cases, and correctly distinguish those extraordinary actions in every native's life, for which he afterwards becomes celebrated and famous.

The well-known life and character of the Rev. Mr. Whitfield, and his remarkable prowess in the line he adopted, render him no unfit subject for our present purpose. He was born on the 16th of December, 1714, as in the annexed plate of his geniture. At a very early period of his life he lost his father, and was left unprovided for in the world. When he arrived at the age of ten years, his mother again contracted matrimony, which turned out every unhappy: this is demonstrated by the mid-heaven coming at this time to a contra-antiscion of the Moon; and, as both are significators of the mother, they presage much trouble and anxiety as well to her as to the native. At fourteen he was taken from school, and assisted his mother in the business of a public house; at which time the mid-heaven came to a quartile of the Sun, which always brings disgrace and trouble. His mother quitting the inn, it was taken by his brother; and, his sister-in-law and himself not agreeing, they frequently fell out, and he would sometimes not speak to her for three weeks together. This sullen austere temper is produced in the radix of his birth by the quartile of the Sun and Mars; and, to complete the obstinate perseverance of his mind, the Moon is in conjunction of Saturn, which invariably produces such a temperature.

In fifteen years and twelve days from his birth, the Moon came to the trine of Venus, who is the significatrix of joy and pleasure. It is a remarkably good direction, by falling in the eleventh house, which denotes friends; and, as Venus is in the third, it relates to kindred and short



Planets Latitude			Rev.d GEORGE WHITEFIELD, M.A	Planets Daily Motion		
♄	2	10 North	Born 16.th December	♄	0	1
♃	1	11 South	16 H 57 m. P.M.	♃	0	5
♂	1	56 North	1714.	♂	0	30
☉	0	0 0	Latitude 51 - 52	☉	1	1
♀	1	0 North	Died 29.th Septr. 18 H. P.M.	♀	0	18
☿	2	44 North	1770. at Newbury near	☿		Rx
☽	4	31 South	Boston in New England	☽	11	52

Imer Sculp. Bristol.

ſhort journeys. Under this direction it was reſolved to fit the native for the univerſity; but he went on ſome viſits of pleaſure before he conſigned himſelf to the diſcipline of a preparatory ſchool. At the age of ſeventeen years and one hundred and eighty-eight days, the Moon came to a bodily aſpect with Mars. This direction hath an evil ſignification, becauſe theſe two planets are by nature inimical to each other, as we have already ſufficiently ſhewn; and it would have had a ſtill more malignant influence, had not Venus at the ſame time caſt her trine aſpect to Mars. Under this direction he contracted an intimate acquaintance with ſeveral debauched young gentlemen, who led him into a variety of ſcrapes, and into the wicked company of proſtituted females.

At about eighteen years of age he was received into the univerſity; for which there came up a moſt ſignificant direction of the aſcendant to the trine of Jupiter, which hath reference to preferment under the nobility, clergy, religious ſocieties, and ſuch-like. Under this direction he was choſen ſervitor to ſeveral gentlemen of the univerſity, whereby he conducted his pecuniary affairs ſo well, that he did not ſtand his friends in twenty-four pounds in three years. At the period of eighteen years two hundred and fifty-ſix days, the Sun came to the trine of Saturn; under which direction the native abandons the eſtabliſhed doctrines of the church, and takes up the religious tenets of Methodiſm, to the utter aſtoniſhment and concern of all his relations and friends. At nineteen years two hundred and forty-four days, the Sun again came to the trine of Saturn; under which direction the native more vigorouſly purſued his religious principles, and became intimately acquainted with the Rev. John Welley, by whoſe friendly advice and exemplary conduct he uſed frequently to ſay, "he had been delivered from the ſnares of Sa-" tan."

At nineteen years one hundred and twenty-ſix days from the time of birth, the mid-heaven came to the oppoſition of Jupiter. At this time many infelicities ariſe by means of clerical men. The native's mind is tormented and oppreſſed, and he is loaded with calumny and contempt. He incurs the diſpleaſure of the heads of his college; his relations alſo conſpire againſt him, and his mind becomes a prey to perturbation and deſpair. This laid the foundation of a violent fit of ſickneſs, which laſted him upwards of ſeven weeks, whilſt this direction operated with its utmoſt force; his life was ſuppoſed to be in danger, and his enemies rejoiced in his affliction. At twenty years and two days, the Moon came to the ſextile of Mercury, under which favourable

direction

direction he was reſtored to health, and recovered his wonted reſolution and ſpirits.

At twenty years and two hundred and eighty-ſix days from his birth, the mid-heaven came to the trine of Venus, which produced him the ſincere regard of many perſons, with health and content, and proſperity in worldly affairs. Under this direction the native journeyed to Glouceſter, and ſoon afterwards to Briſtol; in the courſe of which he experienced many offices of friendſhip from thoſe whom he had conſidered his enemies. Lady Selwyn, of Glouceſter, recommended him to the patronage of the Biſhop, who immediately ſent for him, and offered to ordain him whenever he deſired; and at the ſame time preſented him with five guineas. And the next direction coming up at twenty years three hundred and ſixty days from the time of birth, namely, on the 12th of December, 1735, greatly encreaſed the good fortune promiſed by the former; for, under the influence of this direction, Sir John Phillips agreed to allow him thirty pounds a year.

At twenty-one years and eighty-ſeven days, 14th March, 1736, the aſcendant came to the ſextile of Venus. While this direction was operating, it gave the native a pleaſant and agreeable time, full of proſperity and content, with reputation and ſucceſs in his vocation; ſo that in May following he was ordained. What renders this direction more remarkably propitious is, that it falls in a good part of the horoſcope, and that Venus is no way afflicted. In Auguſt following he returned to London.

When he was twenty-one years three hundred and forty days old, *i. e.* on the 22d of November, 1736, the Moon came by direction to Spica Virginis, a fixed ſtar of the firſt magnitude. Fixed ſtars of a benevolent quality, in ſuch conjunctions, uſually denote ſudden honour and preferment, and frequently bring men into higher repute than any ſingle erratic influence; but, when mixed with planets of their own nature and quality, they give durable reputation and proſperity, as was the caſe in the preſent inſtance. At twenty-two years and twenty-four days from the birth, namely, on the 10th of January, 1737, the Sun came to the trine of the Moon from the tenth houſe, the houſe of profeſſional honour; and, as the Moon is ſignificatrix of the mixed multitude, or common people, it declares that the native ſhould experience an uncommon ſhare of honour and reſpect from the middle claſs of people, which every one knows was really the caſe. This aſpect likewiſe implies

implies ſome diſtant journey; and we find that Mr. Whitfield now firſt formed his determination of going to America. Under this direction the native acquired great popular applauſe, as he hath declared himſelf; and at this time he preached in the pariſh-churches. On the 30th of October following, the aſcendant came to the ſextile of Venus, which promiſes ſucceſs; and, by reaſon that ſo many benevolent directions follow ſo cloſely after one another at this juncture, his ſucceſs became more rapid and conſpicuous. On the 10th of December the aſcendant came to the ſextile of Mars; and on the 28th of the ſame month the native embarked for Georgia. This direction brings him into the ſociety of military men, with whom harmony and attachment is moſt amply denoted by the ſextile aſpect. It likewiſe gives the native ſuitable magnanimity, fortitude, and courage.

The next direction is of a very dangerous and evil import, namely, the medium cœli to the body of Mars, which, genethliacally conſidered, indeed expoſes a native to the miſchance either of life or fortune; it ſtirs up the wrath of powerful men againſt him, and excites his mind to popular tumults and commotions. This was in an extraordinary manner exemplified in the perſon of Mr. Whitfield; for under this direction he returned to England, landed at Briſtol, and behaved with great arrogance to the Chancellor of that dioceſe; and afterwards inſulted and rebuked the Vice-Chancellor of Oxford, and contemned his authority, with that of all the other dignitaries of the church. He was now prohibited from performing divine ſervice in any of the proteſtant churches; in conſequence of which he commenced field-preacher, in the neighbourhood of Kingſwood, near Briſtol. In February, 1739, the aſcendant came to the conjunction of Mercury, at which time he was ſeized with a violent fever, and continued very ill upwards of ſix weeks.

At twenty-four years and ſeventy-eight days from the native's birth, March 5, the mid-heaven came to the body of Mercury, ruler of the tenth houſe; ſo that, notwithſtanding the oppoſition and cenſure he met with, yet he was remarkably ſucceſsful, and received great encouragement from the populace, as this direction obviouſly denotes. Under its operation he preached openly in Iſlington church-yard, then at Moorfields, afterwards at Kennington Common, and at ſeveral other places in the open fields round London. The novelty of his doctrine and deportment excited public curioſity, and the populace flocked to hear him from all quarters. He collected large ſums of money daily, in the form of a ſubſcription for building the Orphan Houſe in Georgia; for

which purpoſe the truſtees had granted him five hundred acres of land for ever. This direction likewiſe inclines the native to travel, and under its influence he embarked for Georgia in Auguſt, but returned to England again in March, 1741.

From the thirty-ſecond to the thirty-ſixth year of the native's age, there happen four remarkably-good directions, viz. the Part of Fortune to the conjunction of the Moon, the Sun to the ſextile of Jupiter, the Sun to the conjunction of Venus, and the Sun to the trine of Mars. Under theſe ſeveral directions he conſiderably encreaſed his ſubſtance, grew daily into higher repute amongſt his diſciples, and publiſhed ſeveral tracts that met with very great approbation. He likewiſe under this influence married the widow of an apothecary in Wales, with a ſmall landed eſtate. On the 27th of June, 1751, the Sun came to the trine of Mars; under which direction he collected large ſums of money, and completed his tabernacle in Moorfields.

At the age of forty-two years and ſixty-eight days, March 4, 1757, the Aſcendant came to the quartile of the Moon, an evil direction, preſaging much miſchief. The native was now publicly moleſted and abuſed by the populace. He was driven from the chapel in Long Acre with indignant violence; and in ſeveral of theſe popular tumults he narrowly eſcaped with his life. He embarked for Ireland under the evil influence of this direction, where he in vain attempted to gain proſelytes to his doctrine. The populace were in a ſhort time irritated againſt him; and after ſeveral fruitleſs efforts to ſubdue the paſſions and ſpirits of his auditors, and after patiently enduring a copious ſhare of inſult and abuſe, accompanied with ſome ſevere chaſtiſement, he re-landed in England, and came back to purſue his fortune in London.

At the age of forty-two years two hundred and fifty-ſeven days, the mid-heaven came to the ſextile of the Sun, which is an aſpect denoting much good. Under this direction he found himſelf well received by the populace; he reſumed his former places of public declamation, and went round the country, preaching in the open fields, or public ſtreets, as beſt ſuited his purpoſe. His collections upon theſe occaſions were generally pretty liberal, particularly in places where his doctrine and manner were novel, and he gained over many diſciples. He returned to town, and under this benevolent direction he built his chapel in Tottenham-Court Road.

At forty-five years one hundred and eighteen days from the time of birth, viz. April 17, 1760, the Moon came to the quartile of Venus. This direction falls in the twelfth houſe, and is the forerunner of anguiſh and affliction. At this time Foote's comedy of the Minor made its appearance, which ſo ſtigmatized the native's character, that he never got the better of it. He devoted himſelf to the taſk of preaching it down, and perſevered for a long while in this fruitleſs attempt; but the inſult and ſatire of the populace was ſo great, that he was under the neceſſity of withdrawing himſelf from the performance of divine ſervice even in his own chapels. At this time likewiſe many of his principal followers deſerted him, particularly a diſtinguiſhed lady, from whom he had received very great ſupport. This direction is immediately followed up by the Part of Fortune to the oppoſition of Jupiter, a baneful aſpect, which came up the 20th of May, 1760, and alſo declares loſs of reputation and ſubſtance to the native. Under this direction ſeveral others of his moſt opulent diſciples abandoned him, and the pecuniary emoluments of his chapels were greatly decreaſed.

In September, 1764, the Part of Fortune came by direction to the bodily aſpect of Mars, which hath ſignification of many violent contentions between the native and his adherents about the loaves and fiſhes; with loſs of property, and reſpect in conſequence. The next aſpect came up the 5th of December following, that is, in forty-nine years three hundred and fifty-three days from the time of birth, when the mid-heaven, which repreſents the native's honour and reputation, comes to the quartile of Venus in the twelfth houſe. This is a malignant direction, calculated to blaſt the native's general character, and to produce ſome ſudden evil from a female quarter. Theſe ſucceſſive directions, being fraught with diſappointments and inſurmountable perplexities to the native, prepared his mind to ſeek an aſylum in the more grateful climes of America.

At fifty years one hundred and eighteen days from the time of birth, the aſcendant came to the conjunction of the Sun, and is then brought to a quartile aſpect with Jupiter, in an equally-malignant radiation of the Moon. The union of theſe aſpects is extremely ſingular, as is the manner in which the hyleg and anareta are here brought together, by the united force of three co-operating malevolent directions, all of which came up in September, 1770, and deprived this celebrated character of life, on the 18th day of that month, at Newbury, near Boſton, in America.

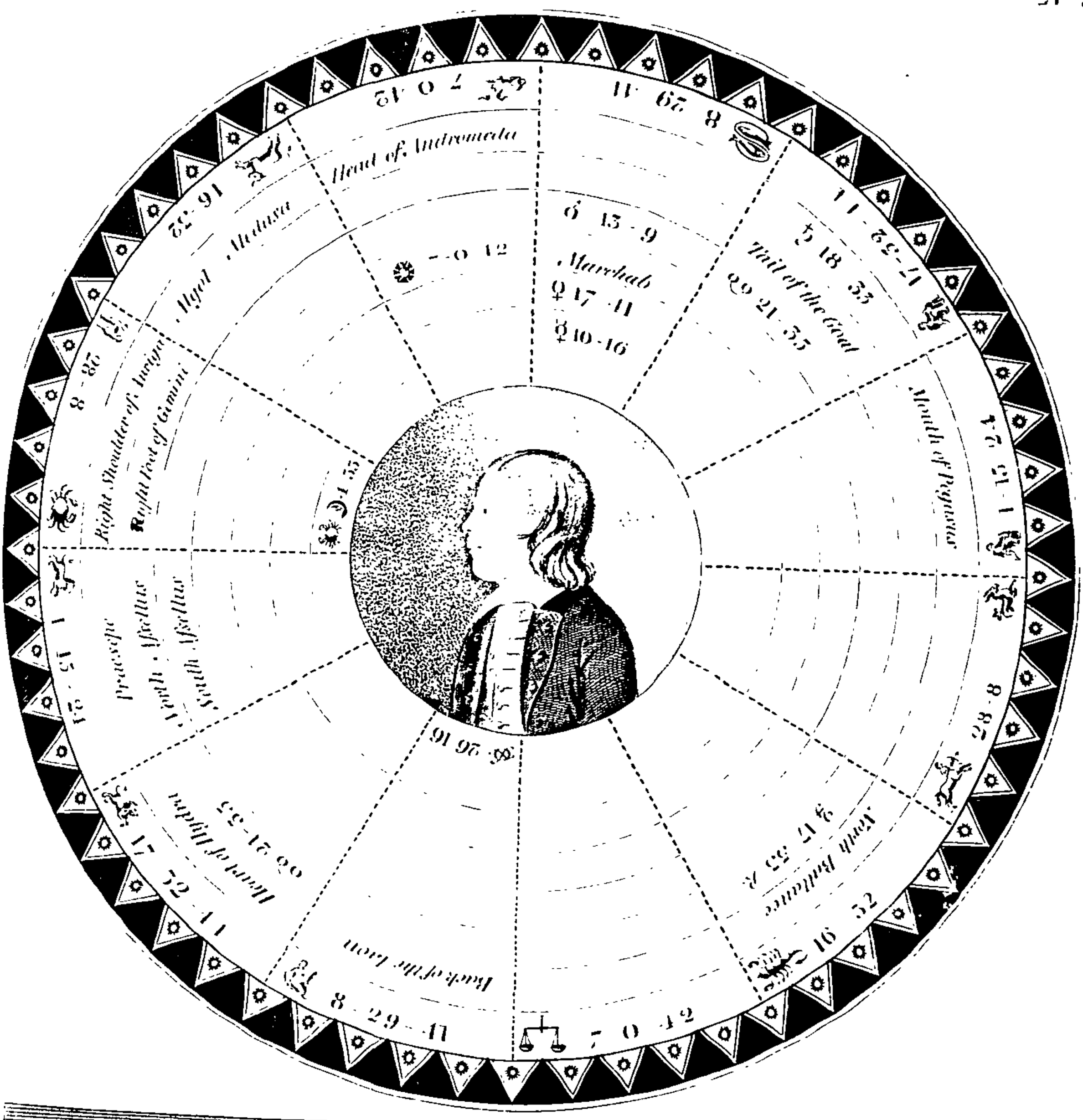
As

As to the natural temper and diſpoſition of Mr. Whitfield, it was none of the beſt, as might be collected from his own words: "I can "truly confeſs," ſaith he, "that I was brutiſh from by mother's "womb; and ſo brutiſh, as to hate inſtruction. I can date ſome early "acts of uncleanneſs, with flagrant proofs of an impudent temper, a "lying and filthy talking tongue, addicted to ſtealing, frequently taking "money out of my mother's pocket before ſhe got up in the morning; "likewiſe ſpending money that I received in the houſe, it being a pub-"lic houſe; joining others in roguiſh tricks, but was generally detected." This account agrees preciſely with the temperature and bent of mind denoted by the ſeveral ſignificators in his nativity; and is more manifeſtly declared by the ſign Scorpio upon his aſcendant, and the evil poſitions of Saturn and the Moon with reſpect to Mercury, which governs his diſpoſition. But as the meaning and radical import of all theſe ſignificators, together with their various aſpects and relative poſitions, have been ſo amply deſcribed, it would be unpardonable tautology to repeat them. I therefore mean this ſelection of remarkable nativities as ſo many ſtriking examples, whereby to exerciſe the underſtanding and judgment of my readers, in obtaining a perfect knowledge of the aſtral ſcience.

OBSERVATIONS on the NATIVITY of the Rev. JOHN HENDERSON, A. B. of *Pembroke College*, OXFORD.

THIS nativity exhibits a collection of the moſt remarkable configurations I ever ſaw compriſed in one horoſcope during the whole courſe of my practice; and it is really curious to remark their oppoſite deſignations, as they reſpectively occur upon the face of the genethliacal figure of birth, illuſtrated in the annexed plate.

According to the rectification of parallels, this native was born when the Sun was at its higheſt meridian altitude; at which time one degree fifteen minutes and twenty-four ſeconds of the princely ſign Leo aſcended the eaſtern ſiniter of the heavens, and affords the moſt exalted teſtimony of a noble and generous diſpoſition. The ſenſitive powers and underſtanding of the native are repreſented by Mercury and the Moon. Mercury, who rules the active and rational part of the brain, is poſited in the ninth, the houſe of religion and ſcience; in the dignities of Jupiter, in conjunction of Mars, and within orbs of the benefic planet Venus. This ſharpens the wit, and furniſhes the imagination



Planets *Latitude & Declination*

☽	0	5	*South*	*South*	16 10
☿	1	18	*North*	*South*	16 45
♂	1	8	*South*	*North*	7 57
☉				*North*	2 17
♀	1	25	*South*	*South*	6 5
♃	2	0	*South*	*South*	9 27
♄	3	11	*South*	*North*	19 57

Rev.d

JOHN H..D..S.N. B.A.

of Pembroke College

OXFORD

Born 27 March at . Marsham

— 1757 —

Lat 52 30

Planets . *Motion* *Vel.y & Dec.n*

♄	0	5	*Direct*	20 0
♃	0	1	4	11 0
♂	0	17		11 0
☉	0	59	11	15 0
♀	1	11		8 0
☿	1	17		0 6
☽	11	51	*Direct*	1 0
☊				- 0

Jones. Sculp Bristol

imagination with inexhauſtible powers of reaſoning; and if we add to the foregoing teſtimonies, that Mars is configurated in his own triplicity, and Venus in her exaltation, we ſhall diſcover the endowments of a mind apt for invention, with an impetuoſity of natural ideas, ſcarcely to be equalled; which is ſtill more confirmed by the ſtrength and good aſpect caſt by Mercury, to the Moon, who rules the moiſture of the brain, and thereby fructifies and ſtrengthens the retentive faculty. This poſition of the ſignificators likewiſe gives the native a ſtrong taſte for ſcientific knowledge, impels him to the conſideration of abſtruſe and occult reaſoning, and to the inveſtigation of myſtical divinity.

It is however much to be lamented, that, in the midſt of all theſe propitious configurations, Mercury happens to be in his detriment; for thereby it is declared, that theſe ſplendid endowments will profit the native little or nothing. And, as five of the ſignificators are poſited in watery ſigns, it is too obvious a proof that he will be regardleſs of reputation and preferment, but will give himſelf up to the pleaſures of conviviality, and ſacrifice too frequently at the ſhrine of Bacchus. This failing is ſo ſtrongly marked, that ſurrounding ſpectators, whilſt they admire the brilliancy of his wit, and the acuteneſs of his underſtanding, will be equally ſurpriſed that he ſhould not apply them to an uſeful and advantageous purſuit.

Nature has ſo endowed his rational intellect, that he is alike qualified for law, phyſic, or divinity; three avocations that perhaps few or none beſides himſelf can claim equal pretenſions to. Theſe extraordinary qualities are thus defined from the horoſcopical ſignificators: Venus in the ninth houſe, in trine to Jupiter lord of the ninth, inſpires him with a conſcientious mind, formed for divinity; Mars in conjunction with Mercury gives him a depth of judgment and an acuteneſs of reaſoning fitted for the law; and, as Venus is in conjunction with Mars and the Moon, at the ſame time that Jupiter beholds Mars and Mercury with a trine aſpect, and Mars being lord of the tenth houſe, with the Sun exalted therein, theſe are ſo many deciſive arguments to ſhew, that, had the native been profeſſionally bred to the law, he would not only have acquired an immenſe fortune, but would have increaſed likewiſe in reputation and character. That he would have made an excellent phyſician, is every way obvious. Jupiter, lord of the ſixth, the houſe of pharmacy and phyſic, is in Scorpio, a phyſical ſign, and is dignified in the fifth, the houſe of proſperity and pleaſure; and being in partile trine of Venus, and in trine alſo with his diſpoſitor, as well as in re-

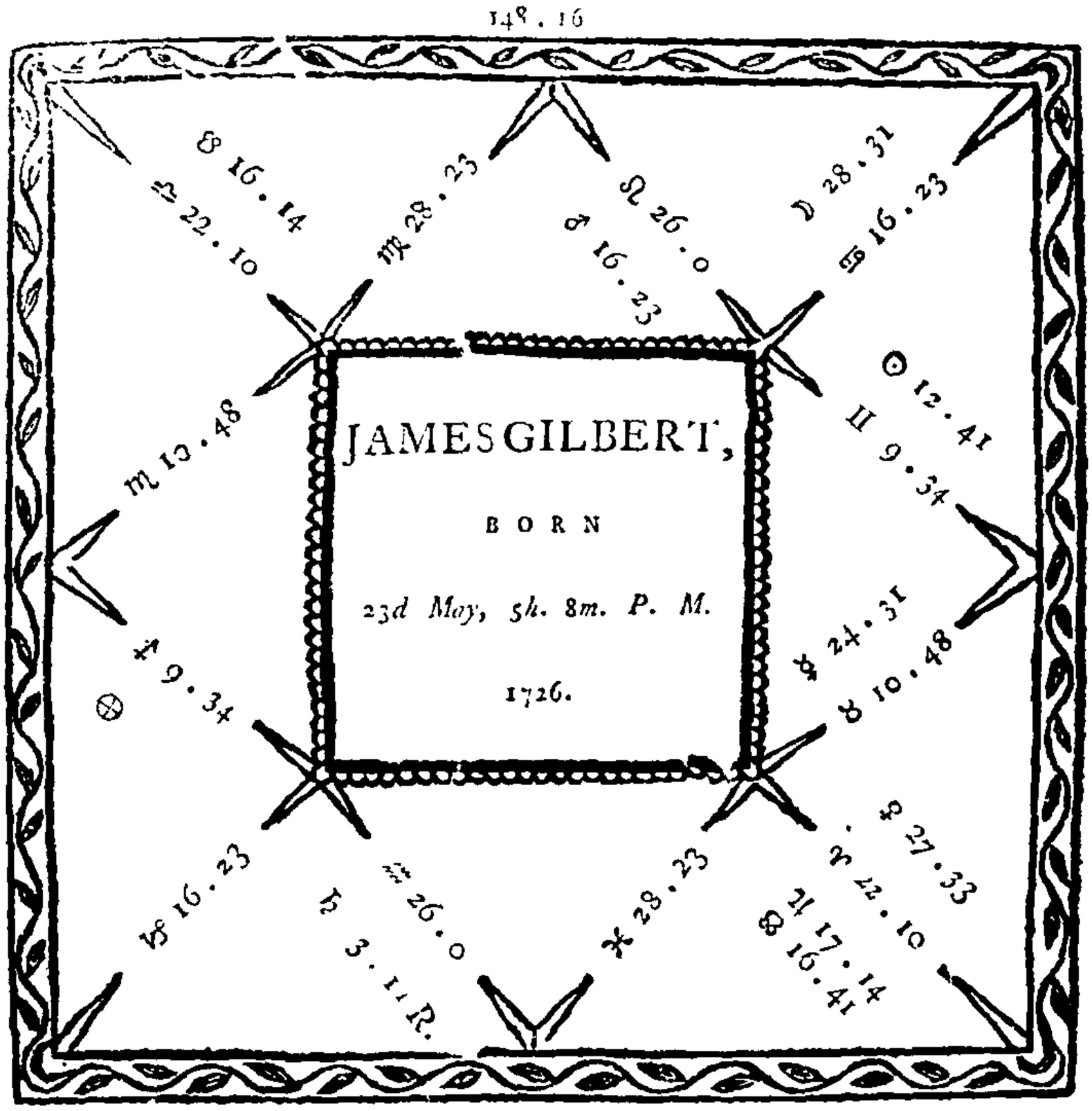
ception, at the ſame time that he is forming a ſextile aſpect with Saturn, lord of the ſeventh, theſe are evident demonſtrations of a perſon born with the heavenly art of healing; and who, like the good Samaritan, not only poſſeſſes the ability, but the diſpoſition likewiſe, of affording relief to his wounded or afflicted fellow-creatures.

This native is not only born with an extraordinary talent for either of the foregoing profeſſions, but hath, in a moſt eminent degree, the gift of acquiring univerſal knowledge; poſſeſſing from nature a ſtrong retentive faculty, a quick and lively perception, and a fruitful genius, apt for every kind of ſtudy, and formed for invention. In ſtature he is but ſhort, as is deſcribed by the Sun in Aries; brown hair, grey eyes, full round features, and of a mild and placid diſpoſition; though given to be ſatirical upon the ladies, as is demonſtrated by Mars being in conjunction with Venus and Mercury in his detriment.

That the native might obtain perferment in the church, is abundantly evident, from the poſitions of ſo many planets in his ninth houſe; and therefore an excellent profeſſion for him to follow, provided he would ſum up reſolution to ſet aſide the diſſipating rays of Mercury. I only ſubmit this as a friendly hint to the native himſelf, who being alive, and poſſeſſing the ability of analyzing his own geniture, and of foreſeeing the different events that are likely to reſult from the directions, it is my duty to leave the conſequences thereof as a proper monitor to his future conduct, meaning to diſplay the figure of his birth as an example only to my readers of the extraordinary circumſtance of many illuſtrious aſpects being deprived of perfect efficacy by one diſcordant configuration.

OBSER-

OBSERVATIONS on the NATIVITY of Mr. JAMES GILBERT.



LATITUDE.			
♄	0	21	S.
♃	1	12	S.
♂	1	20	N.
☉	0	0	
♀	2	20	S.
☿	3	56	S.
☽	5	0	N.

DECLINATION.		
19	30	S.
5	51	N.
14	1	N.
22	25	N.
8	32	N.
15	10	N.
25	23	N.

This is the nativity of a perſon well known in the county of Kent; a man who has a ſtrong natural propenſity to acquire knowledge, as is proved by the Moon's poſition in the ninth houſe, the houſe of ſcience, in ſextile to Mercury, in her own dignities. The ſign Scorpio aſcend-

ing in the eaſt, and Mars and Leo in trine of Venus in Aries, declare him to be of a well-formed body, and of a middling ſtature; of an open generous diſpoſition, and fair and juſt in all his dealings, which is particularly deſcribed by Jupiter being in his own dignities, and in a good aſpect with the Sun.

With regard to the native's ſubſtance, if we conſider his birth, we ſhall find it has encreaſed in a true proportion with what is promiſed by the ſignificators in his genethliacal horoſcope. The Part of Fortune is well ſituated in the ſecond houſe; the Moon is likewiſe poſited in her own houſe, encreaſing in light and motion; Jupiter, who is lord of the ſecond, the houſe of ſubſtance, and diſpoſitor of the Part of Fortune, is conjoined with the Moon's fortunate node; and, having dignities in the fifth and ſixth houſes, prenotes that the native ſhould derive advantages from ſuch things as particularly relate to thoſe houſes, which are fully explained in page 165, &c. but, as theſe ſignificators are all of them either in fiery or watery ſigns, it is apparent that ſuch occupations as are more immediately under the government and controul of theſe ſigns would be found moſt profitable for the native to follow.

We might eaſily perceive that this native is not of a cloſe and ſordid diſpoſition, owing principally to the remarkable configurations of the Moon, in quartile of Venus, in ſextile with Mercury, and within orbs of an oppoſition of Saturn. The force of theſe predominant qualities, while under the particular direction of each reſpective aſpect, will incline the native to be profuſe, and careleſs about money-matters; will expoſe him to the impoſition of the crafty and deſigning, and eventually to the loſs of property, and the diminution of his ſubſtance, unleſs a great degree of ſpirit and reſolution be exerted, to modify and correct this good-natured, but fatal, propenſity. A hint to the wiſe is uſually ſufficient; and as this native is ſtill living, and extenſively ſurrounded with friends, I would by no means wiſh to hurt his feelings or draw down upon myſelf the reſentment of thoſe, who might have it in contemplation to take advantage of the native's generoſity.

But to return. The third houſe is the houſe of journeys; and here we find the malevolent planet Saturn retrograde. This is a ſure argument, that change of reſidence, and journeys in general, ſhould prove unſucceſsful and injurious to the native, either in the pocket, or by bodily affliction, or both, and ſhould therefore be avoided as much as poſſible.

The

The fourth houſe bears deſignation of the principal ſcope and end of the native's life. In this angle we find the fixed ſign Aquaries; and, as Saturn is poſited in that ſign, it is an argument that ſome houſes or land ſhould devolve to the native by hereditary ſucceſſion; but Saturn, being retrograde, ſhews that this patrimony ſhall not be poſſeſſed until the native is far advanced in years, or in the latter ſtage of his life. The fifth houſe denotes advantages to be obtained, or loſſes to be ſuffered, by any ſpecies of adventure; and, as the Moon's fortunate node falls in this houſe, it is apparent that the native ſhould in a general way be fortunate upon every ſuch occaſion, as cards, dice, hazard, dealing in the lottery, or ſending goods upon the chance of a market to any of our ſettlements or connexious abroad. I have no doubt but this poſition of the dragon's head, conjoined with the benevolent planet Jupiter, who is lord of the ſecond houſe, the houſe of ſubſtance, and bears rule likewiſe over the fifth, which relates to adventure, would prove extremely favourable to the native, were he to try his fortune in the lottery; more eſpecially if he would be careful to chooſe his ticket under a favourable and correſponding revolution or direction, many of which are to be found in his nativity.

With regard to ſickneſs or diſeaſe, and the accidents which are likely to be moſt fatal to the native, we ſhall, if we regard the ſixth houſe, and the planets bearing configuration therewith, eaſily diſcover of what kind and quality they ſhall be. If we carefully conſult the figure, we ſhall find that choler is the moſt predominant humour in the native's conſtitution; and that the effects of fire and air ſhall be moſt offenſive and injurious to him; and for theſe very ſubſtantial reaſons; namely, becauſe we find a fiery ſign occupies the cuſp of the ſixth houſe, with Jupiter, who governs the fiery triplicity, and he is poſited therein. Jupiter likewiſe beholds the Sun with a friendly ray, and thereby ſtrengthens his quality, becauſe the Sun bears rule over the ſame triplicity, and is poſited in an airy ſign in the eighth houſe. We find alſo an airy ſign upon the cuſp of the twelfth houſe; and Mars, the lord of this native's aſcendant, hath his feveriſh quality much encreaſed, by being poſited in a fiery ſign; and as this malefic beholds Venus with a trine aſpect in the ſixth, at the ſame time that ſhe is a lady of the twelfth, and in quartile to the Moon, it renders that otherwiſe benefic planet inimical to the native's conſtitution. Theſe teſtimonies all conſpire to ſhew, that the native ſhould be more than ordinarily ſubject to hot and feveriſh complaints, and to accidents from violent falls and bruiſes.

According to these positions of the planets, and to the directions wherewith their aspects are severally brought up, will the infirmities and misfortunes of this native be respectively found. At about eighteen years of age, namely, when Venus perfected her mundane parallel with the Sun and Mercury, he was afflicted with a long and violent intermittent fever. At twenty-four years of age, he had another violent fever, which produced the measles. This was brought on by the baleful configuration of Saturn in opposition of Mars, lord of the ascendant, and was so powerful and violent, owing to Saturn being in his own house, and coming at the same time to a mundane parallel of Mars, that no person whatever expected his life; nor could he have survived so severe an attack, had the hylegiacal and anaretical stars been united in the configuration, to the want of which we can alone attribute the preservation and continuance of the native's life.

At the age of thirty-four years and three months, the native is again attacked with a violent tocching fever, which nearly absorbed all the humours of his body, and annihilated the blood and animal juices. This was produced by a joint and most remarkable opposition of the Sun and Jupiter to the ascendant; whereby Jupiter partakes of the consuming heat and violence of the Sun, being in sextile aspect with him, in the fiery sign Aries, in the sixth house; at the same time that the Sun, being in the airy sign Gemini, in the eighth, is most apt to corrupt the blood, and to promote putrefaction. This fever continued with astonishing violence, until the Moon's crisis superseded the force of the direction, and abated, by its nutritive and moistening quality, the consuming heat of the preceding configuration.

At the age of forty years and one hundred twenty-seven days, the Sun comes to a mundane quartile of the ponderous majestic planet Saturn, which from natural designation portends little less than inevitable destruction, from some sudden bruise or violent concussion of the circumambient matter. Had this aspect been formed of Mars instead of Jupiter, I should have predicted danger of death from the sudden and all-devouring stroke of lightning; but the quality of Saturn describes it to be the effect of some violent blow, or fall from an eminence. And the fact has really turned out, that the native most improvidently, at this age, got up into a tree, from whence he fell to the ground, and broke several of his bones, and lay for a considerable time without the least prospect or hopes of recovery; but, as this malevolent aspect was not made to the hyleg, it was impossible it should destroy life, no

matter

matter how much the human frame was injured and deranged by the violence of the fall.

From the ſeventh houſe we collect information concerning wedlock and marriage, and its probable conſequences. This houſe therefore repreſents the native's wife, who is deſcribed by Mercury in Taurus as a lively but head-ſtrong woman; ingenious, quick, and penetrating, but poſitive, and ſelf-willed. This marriage was brought up by the mundane ſextile of the Sun and Moon, and may be ranked amongſt the mediocrity of the happy ones.

The eighth houſe ſhews us what might be expected from the wife's ſubſtance, either from dowry or from legacy; and likewiſe what portion of happineſs and content may probably be found in company therewith. As to the firſt of theſe, we may obſerve that the Sun, in ſo impeded a poſition, rather deſtroys the fortune of a wife than adds to it; and, as to the ſecond, there does not appear, either from earthly connexions, or from heavenly configurations, any reaſon to form extenſive expectations. The beſt way in all theſe caſes is wiſely to learn to be content with our lot.

The ninth houſe relates to profeſſional ſcience, to ſea-voyages, and the like. And, as the Moon is poſited therein, it ſhews the native, in his early days, ſhould have a ſtrong inclination to go to ſea, and to travel into foreign parts; but Saturn being in oppoſition to the Moon, and a ſuperior planet, over-rules this diſpoſition; and ſhews, by his poſition, that, if the native had gone to ſea, he would have ſuffered an uncommon ſhare of perils and dangers, by ſtormy weather, public enemies, and ſhipwreck. As to ſcience, we have already ſeen the native's inclination and propenſity towards it; and, conſidering his ſituation, and the difficulties he had to encounter, he has made great proficiency therein, although Saturn has often proved detrimental to him even in this purſuit, notwithſtanding the vigour of his mind, and the zeal of enthuſiaſm; for Saturn, by caſting an oppoſite malignant ray to the Moon, who rules the moiſture of the brain, proportionably dulls the underſtanding, and cauſes the native to labour hard for every grain of knowledge he has the good fortune to obtain.

The tenth houſe is the houſe of trade, honour, and profeſſion. In this portion of the horoſcope we find Mars, lord of the aſcendant, beheld by the trine aſpect of Venus; but, as Venus is in her detriment,

it

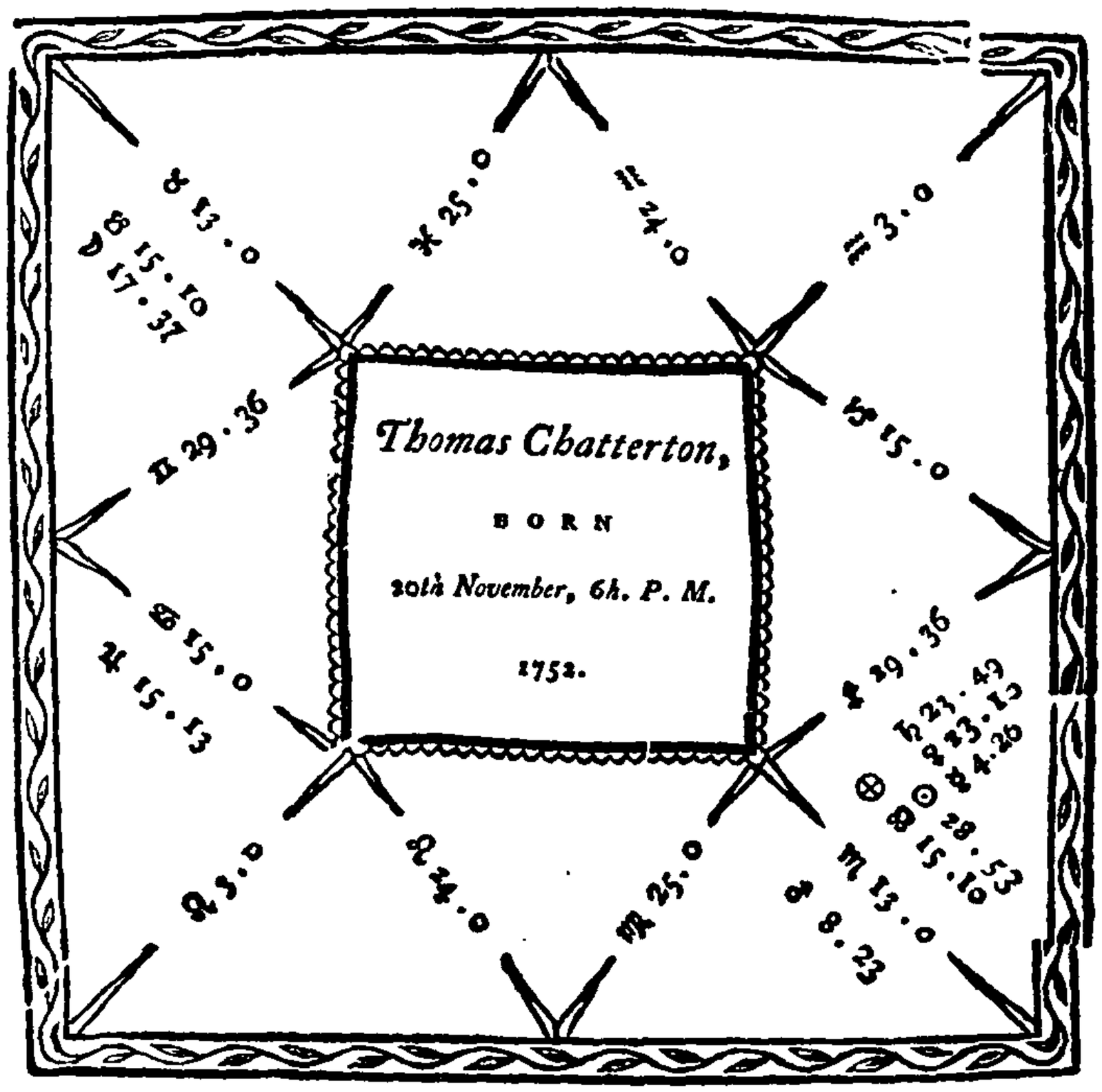
it is apparent ſhe cannot afford that eminent proſperity and unimpeded ſucceſs ſhe otherwiſe might do. It is however pretty obvious that the native's advancement in life is not to be ranked amongſt the moſt inconſiderable; and that this ſucceſs, in the department of phyſic and chemiſtry, ſhould neither be diſreputable nor unprofitable. Mars poſited in the mid-heaven, out of all his eſſential dignities, generally declares the native to be violently paſſionate and raſh; but here we find his haſty temperature cooled by the mild trine of Venus, which meliorates the native's diſpoſition, and induces him to be more gentle and kind.

In the eleventh houſe we find the unfortunate node of the Moon, commonly called the Dragon's Tail, which implies hypocritical enemies and perfidious friends. Of theſe I make no doubt but the native has had ample experience; and therefore, from what has already come to paſs, I would admoniſh him of the future; being convinced, from this poſition of his geniture, that no part of his life will be exempted from the attacks of thoſe aſſailants. This poſition of the malefic node likewiſe declares, that the native ſhall ſuffer great diſappointments in his pecuniary hopes and expectations.

The twelfth houſe relates to public enemies, impriſonment, and great cattle. Venus being lady thereof, poſited in the ſixth, in oppoſition, declares the native ſhall be unſucceſsful in any dealings in cattle; at the ſame time it diſcovers his profeſſed enemies to be in too abject a ſituation to do him much injury. As to impriſonment, there does not appear to be the leaſt apprehenſions of; but that the native will live in proſperity during the remainder of his days, and yield up the ghoſt upon the bed of liberty, full of years, and amidſt the good offices of his friends, I am bold to affirm, from the conſideration of thoſe celeſtial intelligencers that have never yet deceived me.

CONSIDE-

CONSIDERATIONS on the NATIVITY of Mr. THOMAS CHATTERTON.



LATITUDE.

♄	0	58	N.
♅	0	1	S.
♂	0	26	N.
☉	0	0	
♀	1	8	S.
☿	1	0	S.
☽	0	3	S.

This gentleman was a native of Briſtol, much celebrated for his literary productions, and for the originality of his ideas, which roſe early in the horizon of his life, and ſet as prematurely upon its hemiſphere, without

without even allowing him to attain its meridian altitude. In ſhort, this is a very remarkable, at the ſame time that it is a moſt unfortunate, geniture. Upon the aſcendant we find the ſign Gemini, and Mercury lord thereof, which lays the foundation of a ſharp wit, and an acute underſtanding. But then Mercury, his principal ſignificator, is poſited in the ſixth houſe, in his detriment, and in combuſtion of the Sun; an infallible argument of a wretched life and a fatal end.

This judgment is corroborated and confirmed in a moſt extraordinary manner, by the coalition of the Sun, Saturn, Venus, Mercury, and the Part of Fortune, in the ſixth houſe, which preſages every ſpecies of misfortune that can ariſe from poverty, and from the chicanery of proſtituted women; the immediate effect of the baleful rays of Saturn and Venus. This fatal conjunction, to which Mars is approaching with accumulated malevolence, hath deſignation of a thouſand diſtreſſing occurrences, which occaſionally torment, and alternately pervade, the native's mind.

We likewiſe find the Moon poſited in the twelfth houſe, receding from a ſextile with Jupiter, and forming an oppoſition with the Sun; that is, departing from the early good and prolific temperature, to encreaſe the virulence of the other malefic rays. The Moon is lady of the ſecond houſe, and therefore in a more particular manner governs his ſubſtance; and, by being in the twelfth houſe, the houſe of impriſonment and affliction, denotes a frequent want of preſent caſh, and the dangers to which the native would be often expoſed on that account; which would have been dreadful indeed, and perhaps ſecured the native for a length of time within the iron gates of a priſon, had not the more benevolent planet Jupiter been in his exaltation in the ſecond houſe, which fortunate configuration leſſens the foregoing baneful influences, and is the means of producing timely and unexpected relief, in pecuniary matters, to the native, when nothing but the moſt abject and barren proſpects ſtood before him; and but for which fortunate occurrence, he had certainly experienced the moſt abject penury and want. And here it is remarkable, that whatever bleſſing, or whatever abundance, ſhould be thrown in his way by the genial influence of Jupiter, is either abuſed, or improvidently ſquandered away, under the oppoſition of the Sun and Moon; and, by the Moon's conjunction with her unfortunate node, we are more clearly convicted that the native will experience very embarraſſed circumſtances.

The

The Part of Fortune unluckily falls in conjunction with Saturn and Venus; and, as Saturn is poſited in a ſign out of all his dignities, and is the lord alſo of the eighth houſe, his influence is implicative of certain ruin by means of wicked and debauched women, deſcribed by Venus, conjoined to the worſt rays of Saturn. This conſtruction is abundantly confirmed by the conſtitution of the hylegiacal and anaretical places of the figure, and the diſpoſition of the ſignificators by which they are reſpectively irradiated. The aſcendant, in this horoſcope, muſt be conſidered as hyleg, or giver of life, ſince neither the Sun, Moon, nor Part of Fortune, is ſo poſited in the geniture, as to entitle either of them to the pre-eminence; and it is the peculiar quality of the aſcendant, occupied by Gemini, and governed by Mercury, to ſtamp upon the native ſo early and ſo extraordinary a turn for literary purſuits; which are too well eſtabliſhed to need any other proof, than that they were communicated to the intellectual faculty by this conſtruction of the hyleg and circumambient matter at the time of birth.

We are here likewiſe to remark, that Saturn is the anareta, or deſtroyer of life, and is poſited in the moſt noxious poſition that could have happened, and where he uſually prenotes the fatal commiſſion of ſuicide, without ſo much as one friendly ray to oppoſe his influence, or to render the ſhocking attempt partial, or leſs deſtructive than a cauſe that will certainly touch life. On the contrary, here is a concatenation of evil rays, which in a remarkable manner contribute to a premature death. The Sun and Moon are in oppoſition to houſes that are under the influence of the worſt cauſes of death; and as Venus is in conjunction with Saturn, who rules theſe evils, and draws them as it were within the focus of her own orb, it is evident that his death would come by his own hand, under the preſſure of deſpair, heightened by meagre want, through the perfidy of ſome abandoned female.

If we acquire minutely into the life of this unfortunate man, we ſhall find every action and prediction of the ſtars, which were the impreſſors at his birth, fully and completely verified. He was born of no very diſtinguiſhed parents, and received but a ſmall ſhare of claſſical education; yet his productions, at a very early period, were ſuch as excited the admiration of the firſt ſcholars of his day, and proved him to inherit great natural ability and genius; inſomuch that Mr. Wharton, in his additions to his Hiſtory of Poetry, vol. 2, hath taken occaſion to obſerve, *That Mr. Chatterton had given a ſingular inſtance of prematurity of abilities, and that he had acquired a ſtore of general information far exceeding*

exceeding his years; that he poſſeſſed a comprehenſion of mind, and activity of underſtanding, which predominated over his ſituations in life and his opportunities of inſtruction. But notwithſtanding he was thus gifted, and poſſeſſed ſo eminent a ſhare of ſterling ſenſe, yet he combined with it all the vices and irregularities of youth, and his profligacy was at leaſt as conſpicuous as his abilities.

Finding himſelf encompaſſed with private enemies, ſurrounded with the evils of poverty, and deſtitute of every means of ſubſiſtence, he quitted Briſtol, to try his fortune in the metropolis. Having fixed himſelf in private lodgings, he ſought for bread through the medium of his literary talent, which falling ſhort of his expectations, as well as of his merit, he moſt unfortunately fell into the hands of the lower order of proſtitutes, by whom he was duped, diſeaſed, and finally deſerted! In this deplorable ſituation he continued a few months, occaſionally drudging for the bookſellers, who neither having the generoſity to reward him as he deſerved, nor ſpirit to advance upon the credit of his future productions, he at length, oppreſſed with poverty and diſeaſe, and overcome by deſpair, put an end to his exiſtence, in the month of Auguſt, 1770, by a doſe of poiſon, which he prepared with his own hand.

If we conſider the quality of the direction which produced his death, we ſhall find the manner of it moſt aptly deſcribed in his figure of birth. Saturn thus configurated with Venus, in that particular part of the heavens, and under ſuch noxious irradiations, hath at all times, as well by Ptolomy as by every other reſpectable profeſſor of this ſcience, been found to occaſion death by poiſon; and ſo many concurrent teſtimonies in the houſe of ſickneſs and diſeaſe bear the ſtricteſt affinity thereto; and this fatal direction is much ſtrengthened by coming up with the revolution of Saturn.

Mr. Chatterton, notwithſtanding his foibles, and his want of a more ſcholaſtic education, was nevertheleſs a benevolent man, and a good ſcholar. He certainly laboured hard, and combated many obſtacles, in his literary attainments; but his ſucceſs was great, and had he been born to great proſperity, and under the influence of milder ſtars, he had been an ornament to the age in which he lived, and an honour to his country. I have many reaſons to believe, that his knowledge of the uranical part of Aſtronomy had enabled him to foreſee, by his own geniture, the evils he had to combat, and the fatal termination of a life,

which his own folly had rendered inſupportable; but which an oſite conduct, and a more manly reſolution, might confeſſedly have re- ied and prevented. This ſerves to ſhew, that there certainly is a fate nature, which nothing but the rational means made uſe of by He- iah, 2 Kings, chap. xx. can alleviate or prevent, namely, unfeigned yer, and a determined ſpirit to abandon the allurements of vice, and walk perfect in the ways of God and Truth; which verifies the an- ent proverb, *That wiſe men rule the ſtars; and none but the giddy and e thoughtleſs are ruled by them.*

at Mr. Chatterton's acquaintance with this ſcience, and his ap- ation of it, may not be diſputed by thoſe critics who are unwilling nit it has ever had the ſanction of men of ſenſe or learning in the t age, I ſhall conclude my remarks on his nativity, by ſubjoining excellent verſes he wrote upon the occaſion, after he had made ſs enough in the ſtudy, to be convinced of its importance and

THE Sun revolving on its axis turns,
And with creative fire intenſely burns;
Impell'd the forcive air, our earth ſupreme
Rolls with the planets round the ſolar gleam:
Firſt Mercury completes his tranſient year,
Glowing, refulgent, with reflected glare;
Bright Venus occupies a wider way,
The early harbinger of night and day;
More diſtant ſtill our Globe terraqueous turns,
Nor chills intenſe, nor fiercely heated burns;
Around her rolls the Lunar Orb of light,
Trailing her ſilver glories in the night:
On the earth's orbit ſee the various ſigns,
Mark where the Sun, our year completing, ſhines.
Firſt the bright Ram his languid ray improves;
Next glaring wat'ry thro' the Bull he moves:

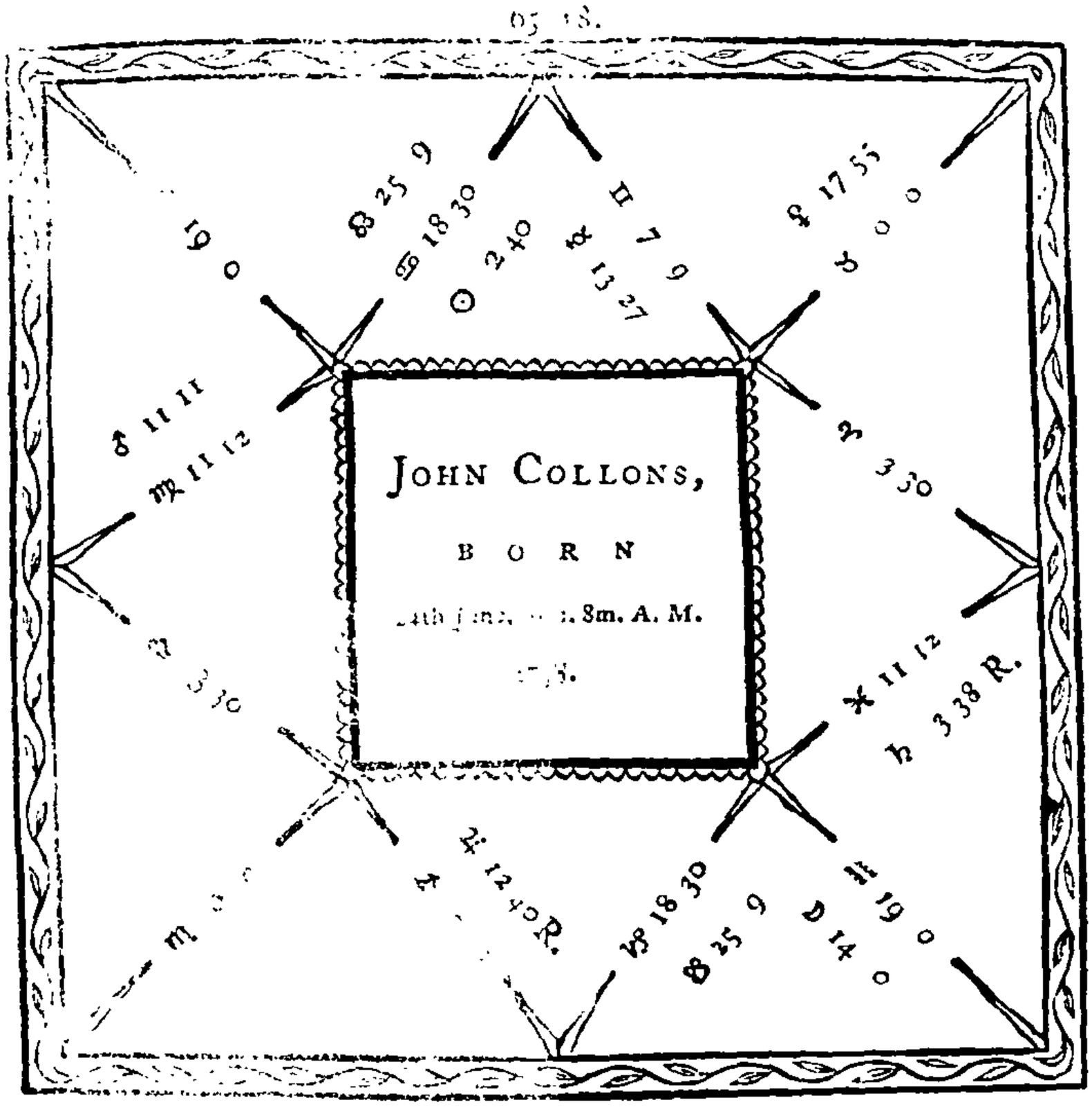
The am'rous Twins admit his genial ray;
Now burning thro' the Crab he takes his way;
The Lion, flaming, bears the ſolar power;
The Virgin faints beneath the ſultry ſhower.
Now the juſt Balance weighs his equal force;
The ſlimy Serpent ſwelters in his courſe;
The fabled Archer clouds his languid face;
The Goat, with tempeſts, urges on his race;
Now in the Water his faint beams appear,
And the cold Fiſhes end the circling year.
Beyond our globe the ſanguine Mars diſplays
A ſtrong reflection of primæval rays;
Next belted Jupiter far diſtant gleams,
Scarcely enlight'ned with the ſolar beams;
With four unfix'd receptacles of light,
He tow'rs majeſtic thro' the ſpacious height:
But farther yet the tardy Saturn lags,
And five attendant luminaries drags;
Inveſting with a double ring his pace,
He circles through immenſity of ſpace.

Theſe are thy wond'rous works, Firſt Source
Now more admir'd IN BEING UNDERSTOO

BRISTOL, *Dec.* 23.

CONSIDE-

CONSIDERATIONS on the Nativity of JOHN COLLONS.



Latitude.			
	°	′	
☿	1	30	S
♀	0	30	N
♂	0	54	N
☉	0	0	
♃	2	47	S
♄	4	0	
☽	1	42	S

Declination.		
°	′	
11	45	S
21	46	S
8	16	N
23	30	N
14	34	N
18	30	N
18	20	S

I am induced to give the foregoing horoſcope a place in my work, as a remarkable example of the influence of the ſtars upon a malefactor, whoſe crimes expoſed him to the forfeiture of his liberty and life, by the iron hand of the law.

This

This unfortunate man reſided in Briſtol. He contracted an intimacy with a female, and lived with her in the cloſeſt habits of the ſexes, until they had ſeveral children. At length diſagreements aroſe, in conſequence of his refuſing to marry her, and a violent quarrel ſeparated them. The woman immediately attached herſelf to another man, to whom ſhe was ſhortly after married, totally forſaking her former connexion. The native, enraged at this circumſtance, took frequent opportunities of way-laying and remonſtrating with her; of claiming a prior right to her perſon, and of inſiſting on having familiarity and contact with her whenever he pleaſed; but ſhe rejected him with contempt, and threatened proſecution whenever he attempted to force her.

Hurt at this repulſe, and exaſperated at the indifference with which he was treated, he took an opportunity of watching the huſband from his bed, who, being a labouring man, went early to his work; upon which the native made his way into the houſe, went up ſtairs, and found the wife in bed. Demanding familiarity with her, he was refuſed, with ſevere reflections on the method he had taken to get into her bedchamber. He then drew his knife, and, with a degree of inhuman barbarity better conceived than expreſſed, he threw himſelf upon the bed, and cut her throat from ear to ear.

The alarm was ſoon given, and the cry of innocent blood became general. The culprit was ſeized, examined, and committed to Newgate for trial. He there affected to ſhew marks of inſanity, and, for ſome conſiderable time before the aſſizes, was generally believed to have perpetrated the bloody act in a paroxyſm of madneſs, which was now become viſible in all his words and actions. His friends availed themſelves of this circumſtance to palliate his guilt, and took every ſtep to improve the advantage againſt the day of trial, when it was generally believed that he would be acquitted. Different parties, however, had taken up the matter on different grounds; and it was at laſt agreed, by ſome gentlemen of reſpectability in Briſtol, that I ſhould be requeſted to inſpect his nativity, and to give my judgment whether he would be found guilty, or acquitted. I readily accompanied the gentlemen to Newgate, and obtained the eſtimate time of the priſoner's birth, which I rectified by the method heretofore laid down, and found the ſignificators of his nativity diſpoſed as in the foregoing horoſcopical figure, which I thus explained.

Mercury being lord of the aſcendant, irradiated by a malefic quartile aſpect of the planet Mars, and afflicted by an oppoſition with Jupiter,

piter, declares that the native ſhall be involved in an abyſs of troubles and afflictions, even to the hazard of his life. As to temper and propenſity of the will, he is raſh, violent, and arbitrary; unſtable in his purſuits, and uſually diſappointed in his expectations. This is denoted by the oppoſition of Jupiter to Mercury; but the quartile of Mercury with Mars, particularly when Mercury is conſtituted principal ſignificator, hath implication of high crimes and miſdemeanours, and uſually produces violent contention, aſſaſſination, murder, rapine, robbery, and bloodſhed, as we have more particularly delineated, in p. 229, 230.

Upon a further inſpection of the figure, we find a baneful quartile aſpect of Mars and Jupiter, with a miſchievous oppoſition of Saturn and Mars. To the firſt of theſe we are to attribute the diſſolute manners of the native, ſince it influenced the mind to thoſe immoral habits, which eventually lead to perfidiouſneſs and treachery, whilſt the ſecond conſiguration not only confirms theſe vices, but ſhews that they will be the means of his death. Here is unqueſtionably a favourable trine of the Sun and Saturn; but no great good can reſult from it, becauſe the Sun is lord of the twelfth houſe, poſited in the tenth, out of all his eſſential dignities; at the ſame time that Saturn is lord of the ſixth, located therein, and both the ſignificators are under the dominion of the *evil genii*, vitiating the mind and affections of the native, and tending to an ignominious and premature end.

At the time the unhappy native was prompted to commit this barbarous act, the Moon came to an oppoſition of Mars by direct direction, while ſhe occupied the cuſp of the ſeventh houſe, which repreſents the unfortunate woman; and the quartile of Jupiter lord of the fourth, with Mercury lord of the aſcendant, hath deſignation of the native, and points out the fatal connection betwixt them.

Having conſidered ſo much of the horoſcope, it was my next care to aſcertain the hylegiacal and anaretical ſtars, and the particular influx flowing from them. The Sun I find to be giver of life, poſited in the tenth houſe, the houſe of juſtice; Mercury, lord of the aſcendant, being in Gemini, an airy ſign, and the Moon likewiſe in an airy ſign, ſhew the manner of the native's death, that he would die ſuſpended in the air, while the oppoſition of four planets in the radix, and the mundane quartile of the Sun and Mars, from the tenth, the houſe of juſtice, ſhew the quality of it, namely, that it ſhould be in due courſe of law, by the hands of the common hangman, and not by ſuicide.

The ſignificators of juſtice likewiſe, conſidered judicially from their reſpective poſitions in relation to each other, give no proſpect whatever of favour from the judge, nor of any effectual interpoſition after conviction; ſo that I made no ſcruple to affirm, That, notwithſtanding the hopes that had been formed of ſaving the native's life by pleading his infanity, and the number of perſons who appeared anxious to ſerve him, yet all their endeavours would prove abortive, ſince he would certainly be found guilty, and ſuffer the ſentence of the law in conſequence.

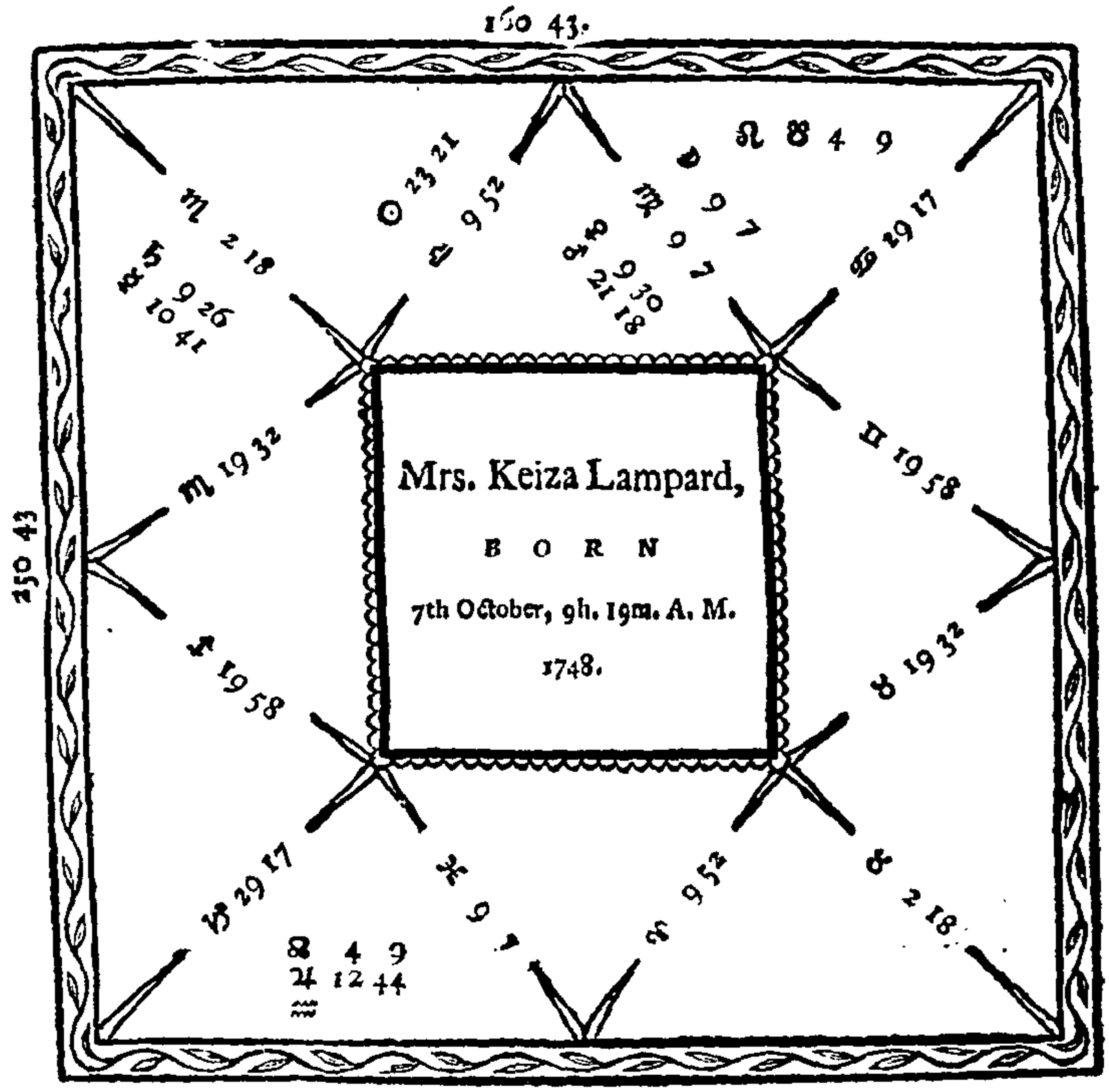
It would be needleſs here to relate, how much this prediction was ridiculed by all degrees of people in Briſtol; or with what contempt my opinion was treated by moſt of the poor man's friends. And it was with ſome difficulty I could paſs without inſult. I was determined, however, to place my judgment in a more ſtriking point of view. The aſſizes were not fixed, nor could any perſon undertake to ſay when they would be, much leſs aſcertain the day of the native's trial. I therefore brought up the direction of death, with great nicety and preciſion, and found he would be plunged into eternity, when the Sun came to the anaretical point in the midheaven, and met the noxious beams of the Moon and Mars in oppoſition, which, thus conſtituted, is ever productive of a violent death. Thoſe, who will take the pains to equate this direction, will find the content of its arch to be twenty-ſeven degrees thirty-four minutes, which, turned into time, and reckoned from the hour of birth, will be found to come up on the eighth day of April, 1785, and gives the ſpace of life twenty-ſix years, nine months, and ſome odd days, which exactly anſwered to the native's age. I then publicly declared, notwithſtanding the popular clamour was ſo much againſt me, that the priſoner would ſuffer on the above day; and as the aſſizes were not fixed, no one could charge me with having drawn my concluſions from the probable event of the day of trial.

When the ſolemn hour arrived, every one appeared anxiouſly intereſted in the event; and the utmoſt exertions were uſed to ſave the unfortunated priſoner from the fate impending over him—but in vain! After a long and indulgent trial, the jury pronounced him guilty, and he ſuffered the law, as thouſands can teſtify, on the very day I had predicted.

And here let me juſt remark, that this geniture not only points out, by the conſtitution of the Moon and Mercury in airy ſigns, that the native would be hanged; but Mars being in quartile to the Sun, who is giver of life, and upon his aſcendant, deſcribes the circumſtance of his diſſection, as may be ſeen by the rules already laid down in the former part of this work.

CONSIDE-

CONSIDERATIONS on the NATIVITY of Mrs. KEIZA LAMPARD, who died in Child-bed.



Latitude.				Declination.		
	°	′		°	′	
♄	2	9	N	12	39	S
☿	1	3	S	18	2	S
♂	1	15	N	4	34	N
☉	0	0		9	52	S
♀	0	40	S	6	25	N
♃	1	0	S	16	1	S
☽	2	56	S	10	57	N

This

This geniture beſpeaks a female of a ſharp wit, and lively diſpoſition. Mars is lord of the aſcendant, poſited in Virgo, the exaltation of Mercury, but in no aſpect with any planet in the heavens, conſequently the faſhion and temperature of the native will be formed principally of Mars; who, as we have ſeen before, produces, when in Virgo, a middling ſtature, inclining to brevity, hot and fiery temper, raſh and invincible in all diſputes, and ungovernably violent in haſty quarrels, yet ſoon appeaſed by good nature and ſubmiſſion, which at all times induce her to be tractable and induſtrious, and for the moſt part ſober and frugal. Her features are deſcribed to be thin and pale, occaſioned by the Moon's conjunction with Venus; yet of a pleaſing and agreeable viſage, owing to the influx of the beams of Venus, who is the author of beauty. But, by reaſon that Venus is in her fall, the ſymmetry of features will be proportionably deranged; and, as Saturn, the author of deformity, beholds both the Moon and Venus with a ſextile ray, it becomes evident that the native could only be moderately handſome. The mixture of theſe ſignificators give her brown hair, and great volubility of ſpeech, from which great inconveniencies ariſe, and ſometimes loſſes and injuries, as is particularly denoted by the reception of Mercury and Mars, and the conjunction of Saturn with Mercury in the twelfth, the houſe of private enemies.

This nativity might be claſſed amongſt thoſe of a mean and obſcure deſignation, ſince we find no one planet through the whole horoſcope eſſentially fortified, except Mercury and Mars, and that is only by reception, which, from the conſtitution of their places, declares good by evil means, with a diſpoſition to low and vulgar purſuits. And here it may not be improper to remark, that, whenever we find the planets, in any nativity, out of all their eſſential dignities, we might ſafely conclude, that their effects will in no ſhape be remarkable or extraordinary, and that the native will lead generally a mean and obſcure life.

That this perſon ſhould live to years of maturity, is abundantly evident from the conſtitution of her horoſcope; as well as that ſhe would enter into the marriage ſtate. Venus and Mercury, in this figure, give teſtimony to the huſband, who is deſcribed by Jupiter, on twenty degrees of the aſcendant, under the government of Saturn; ſo that it was very improbable, if not impoſſible, that the native would marry young, becauſe Saturn is above the earth, conjoined with the ſignificator of her huſband, and declares ſhe would not enter into that ſtate at leaſt under thirty years. In fact, there is but one direction within that period, that could poſſibly have brought it to paſs; and that came up

when

when ſhe was only about twelve years old, ſo that its effect paſſed off in her minority, without producing any ſenſible operation. The direction which perfected her marriage came up when ſhe was thirty-one years three months and eleven daysold, namely, on the fifth of February, 1785, when Venus came to the trine of Jupiter; as appears by the following calculation:

The right aſcenſion of the △ of ♃,	- -	191°	42′
The right aſcenſion of ♀, with latitude,	- -	160	43
Arch of direction,	- - - -	30	59

Which, added to the right aſcenſion of the Sun, and turned into time, as before pointed out, produces exactly thirty-one years, three months, and eleven days.

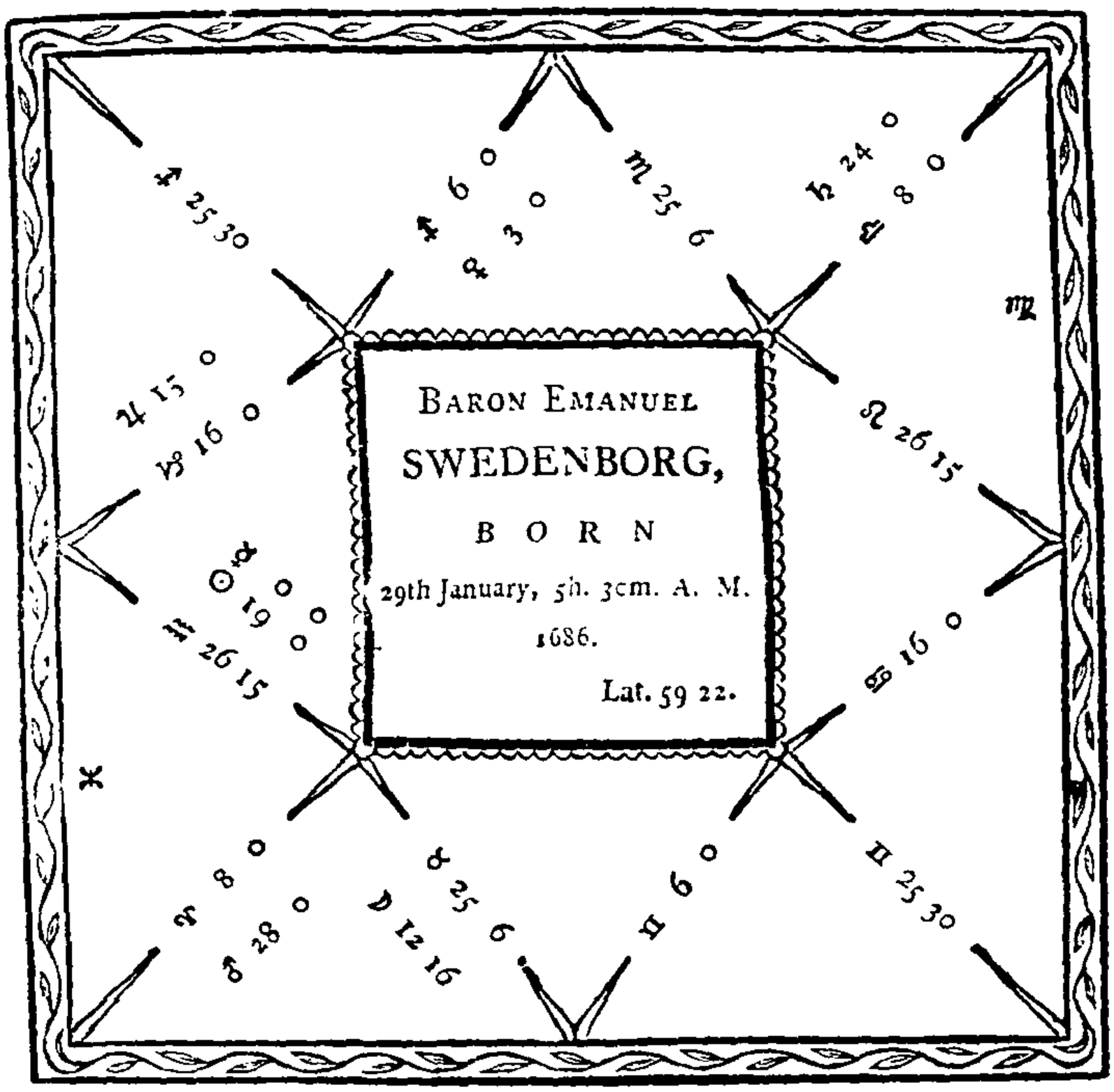
Upon a further inveſtigation of the horoſcope, we ſhall find that Mars is not only lord of the aſcendant, but hath ſole dominion over the fifth and twelfth houſes, which preſage thoſe kind or ſpecies of evils to the native as are uſually produced in thoſe particular poſitions of the heavens. The twelfth houſe being the houſe of affliction, and Mercury and Mars in reception therein, it declares the native ſhall prove in many reſpects her own enemy; and, as Mercury is in conjunction with Saturn, who likewiſe communicates an influx of malefic rays to Venus and the Moon, whereby they participate of his quality and nature, in the ſign Scorpio, which rules the ſecret parts, it evidently demonſtrates great and imminent danger to the native by child-bearing. And the Sun being in the eleventh houſe, oppoſed to the fifth, which is the houſe of children, and being likewiſe the *anareta*, or deſtroyer of life, it evidently proves the native's death ſhall ariſe from child-birth; and ſo it really happened; for ſoon after her delivery of the fifth child, in the thirty-ninth year of her age, ſhe was ſuddenly ſeized, and died in a few hours after, on the 13th of Auguſt, 1787.

The direction under which ſhe died, is the Moon, which is *apheta*, or giver of life, to the conjunction of the Sun in the eleventh houſe; at which exact time Venus came to the ſame anaretical point, and Mars, lord of the aſcendant, to the twelfth houſe, where the malefic rays of Saturn and Mercury contribute their baneful influence, all which conſidered together, denote, in the moſt remarkable and deciſive manner, a child-bed death to the native.

Many other conſiderations might be adduced from this geniture; but, as the only proof we wiſh to eſtabliſh is to ſhew, according to natural cauſes and effects, the certainty with which the time and manner of death might be aſcertained by the force and influx of the ambient and elementary matter, preſcribed by the laws and motions of the heavenly bodies, it would be deviating from our plan, and prove derogatory to the good ſenſe of the reader, to dwell longer upon ſubordinate ſpeculations.

It may not however, be unentertaining to the curious reader, were he to compare the configurations formed by the planets in this horoſcope, and the particular influx of their reſpective beams, with thoſe general rules and obſervations heretofore laid down, for the purpoſe of aſcertaining the quality of death. The wonderful harmony, order, and preciſion, with which the heavenly bodies operate upon this ſublunary world; the uniformity with which the ſame cauſes are found to produce the ſame effects; and the certainty with which the time and manner of human diſſolution is ſought out by them, will at once inſpire the mind with the moſt elevated ideas of the omnipotence of God, and lead the ſoul to thoſe divine contemplations, which are founded in humility, gratitude, and love!

CONSIDERATIONS on the NATIVITY of the HONOURABLE BARON EMANUEL SWEDENBORG.



The ſingularity of the character and doctrine of this illuſtrious native would be a ſufficient reaſon for my offering a ſketch of his geniture to the inquiſitive reader, had I no other motives for taking notice of him in this place. But, as the literary purſuits of Baron Swedenborg have been principally directed to an explication of the doctrine of ſpirits, and the ſtate of departed ſouls, which we ſhall have occaſion to advert to in the magical part of this work, I conceive it highly proper to ſpeak of his endowments by nature, agreeable to that doctrine of ſecret and occult influence received by the terreſtrial from the ſpiritual world, which he has with ſo much ability and acuteneſs endeavoured to prove. And, when I reflect that he was our co-temporary, and his perſon and manners well known to many reſpectable perſonages now living in this coun-

eternity; that he is the lateſt writer upon the nature and exiſtence of immaterial beings, and has thrown much new light upon the ſubject; it cannot be unentertaining, nor unimportant, to illuſtrate, by his nativity, the extraordinary endowments of his mind.

But, before I ſpeak of the conſtitution and quality of his geniture, it will not be amiſs to introduce the reader to a nearer acquaintance with this celebrated author, which I ſhall do by quoting his own account of himſelf, as given in a letter to a friend, publiſhed in his works.

Baron Swedenborg's Anſwer to a Letter from a Friend, printed in his Preface to the World of Spirits.

I TAKE pleaſure in the friendſhip you expreſs for me in your letter, and return you thanks for the ſame; but, as to the praiſes therein, I conſider them as belonging to the truths contained in my writings, and ſo refer them to the Lord our Saviour as his due, who is in himſelf the Fountain of all Truth. It is the concluding part of your letter that chiefly engages my attention, where you ſay as follows: "As after your "departure from England diſputes may ariſe on the ſubject of your "writings, and ſo give occaſion to defend their author againſt ſuch falſe "reports and aſperſions, as they who are no friends to truth may invent "to the prejudice of his character, may it not be of uſe, in order to "refute any calumnies of that kind, that you leave behind you ſome "ſhort account of yourſelf, as concerning, for example, your degrees "in the univerſity, the offices you have borne, your family and con-"nections, the honours which I am told have been conferred upon you, "and ſuch other particulars as may ſerve to the vindication of your "character, if attacked; that ſo any ill-grounded prejudices may be "obviated or removed? For, where the honour and intereſt of truth are "concerned, it certainly behoves us to employ all lawful means in its "defence and ſupport." After reflecting on the foregoing paſſage, I was induced to comply with your friendly advice, by briefly communicating the following circumſtances of my life.

I was born at Stockholm, in the year of our Lord 1689, Jan. 29. My father's name Jeſper Swedberg, who was Biſhop of Weſtrogothia, and of celebrated character in his time. He was alſo a Member of the Society for the propagation of the Goſpel, formed on the model of that in England, and appointed preſident of the Swediſh churches in Pennſylvania and London by King Charles XII. In the year 1710 I began my travels, firſt into England, and afterwards into Holland, France, and

and Germany, and returned home in 1714. In the year 1716, and afterwards, I frequently converſed with Charles XII. King of Sweden, who was pleaſed to beſtow on me a large ſhare of his favour, and in that year appointed me to the office of Aſſeſſor in the Metallic College, in which office I continued from that time till the year 1747, when I quitted the office, but ſtill retain the ſalary annexed to it as an appointment for life. The reaſon of my withdrawing from the buſineſs of that employment was, that I might be more at liberty to apply myſelf to that new function to which the Lord had called me. About this time a place of higher dignity in the ſtate was offered me, which I declined to accept, leſt it ſhould prove a ſnare to me. In 1719, I was ennobled by Queen Ulrica Eleonora, and named *Swedenborg*; from which time I have taken my ſeat with the Nobles of the Equeſtrian Order, in the Triennial Aſſemblies of the States. I am a Fellow, by invitation, of the Royal Academy of Sciences at Stockholm, but have never deſired to be of any other community, as I belong to the Society of Angels, in which things ſpiritual and heavenly are the only ſubjects of diſcourſe and entertainment; whereas in our litetary ſocieties the attention is wholly taken up with things relating to the body and this world. In the year 1734 I publiſhed the *Regnum Minerale*, at Leipſic, in three volumes, folio; and in 1738 I took a journey into Italy, and ſtaid a year at Venice and Rome.

With reſpect to my family connections; I had four ſiſters; one of them was married to Erick Benzelius, afterwards promoted to the Archbiſhopric of Upſal; and thus I became related to the two ſucceeding Archbiſhops of that ſee, both named Benzelius, and younger brothers of the former. Another of my ſiſters was married to Lars Benzelſtierna, who was promoted to a provincial government, but theſe are both dead; however, two biſhops, who are related to me, are ſtill living; one of them is named Filenius, Biſhop of Oſtrogothia, who now officiates as Preſident of the Eccleſiaſtical Order in the General Aſſembly at Stockholm, in the room of the Archbiſhop, who is infirm; he married the daughter of my ſiſter; the other, who is named Benzelſtierna, Biſhop of Weſtermannia and Dalecarlia, is the ſon of my ſecond ſiſter; not to mention others of my family who are dignified. I converſe freely, and am in friendſhip, with all the biſhops of my country, which are ten in number, and alſo with the ſixteen ſenators, and the reſt of the grandees, who love and honour me, as knowing that I am in fellowſhip with angels. The king and queen themſelves, as alſo the three princes their ſons, ſhew me all kind countenance; and I was once invited to eat with the king and queen at their table, (an honour granted only to the

peers of the realm,) and likewiſe ſince with the hereditary prince. All in my own country wiſh for my return home; ſo far am I from the leaſt danger of perſecution there, as you ſeem to apprehend, and are alſo ſo kindly ſolicitous to provide againſt; and, ſhould any thing of that kind befal me elſewhere, it will give me no concern.

Whatever of worldly honour and advantage may appear to be in the things before-mentioned, I hold them as matters of low eſtimation, when compared to the honour of that ſacred office to which the Lord himſelf hath called me, who was graciouſly pleaſed to manifeſt himſelf to me, his unworthy ſervant, in a perſonal appearance in the year 1743; to open in me a ſight of the ſpiritual world, and to enable me to converſe with ſpirits and angels; and this privilege has been continued to me to this day. From that time I began to print and publiſh various unknown *arcana*, that have been either ſeen by me, or revealed to me, concerning heaven and hell; the ſtate of men after death; the true worſhip of God; the ſpiritual ſenſe of the Scriptures; and many other important truths tending to ſalvation and true wiſdom: and that mankind might receive benefit from theſe communications, was the only motive which has induced me at different times to leave my home to viſit other countries. As to this world's wealth, I have ſufficient, and more I neither ſeek nor wiſh for.

Your letter has drawn the mention of theſe things from me, in caſe, as you ſay, they may be a means to prevent or remove any falſe judgment or wrong prejudices with regard to my perſonal circumſtances.—Farewel; and I heartily wiſh you proſperity both in things ſpiritual and temporal, of which I make no doubt, if ſo be you go on to pray to our Lord, and to ſet him always before you.

London, 1769. EMAN. SWEDENBORG.

Upon the horoſcope of this eminent perſon there are four planets eſſentially dignified, viz. Saturn, lord of the aſcendant; the Moon, lady of the ſeventh; Mercury, lord of the fifth and eighth; and Mars, lord of the third and tenth; with Jupiter on the aſcendant. Theſe are infallible teſtimonies not only of an high and exalted mind and character, but are proofs of a devout and examplary life. Venus and the Sun appear to give but little of their qualities in the temperature and conſtitution of the native; firſt, becauſe the Sun is fixed in his detriment upon the cuſp of the aſcendant; and, ſecondly, becauſe Venus is poſited out of all her fortitudes and dignities; and hence we find no trait in the

the life and actions of the native, which deſcribes his having formed any connection with the ſofter ſex, or been at any time ſtimulated with thoſe unconquerable deſires for connubial enjoyments, which thoſe only who have Venus ſtrongly dignified in their genitures are qualified to explain.

Upon the aſcendant we find ſixteen degrees of the tropical ſign Capricorn, with Jupiter's benign aſpect located therein. This denotes roſy health, and uninterrupted proſperity to the native. It is the emblem of dignity, an infallible argument of eſteem, and a ground of laſting reputation to the end of his days. And we need no further evidence than the foregoing well-authenticated narrative of his own life, to convince us of the full completion of all that theſe fortunate beams had promiſed.

We muſt not, however, forget to remark, that as Jupiter hath his fall in Capricorn, ſo it denotes likewiſe that the native ſhall feel ſome occaſional indignities from the oppoſition of perſons diſcordant to his own opinions and doctrine, who, in the very midſt of the honour and favour he is receiving from eminent and royal perſonages, will inſult him with perſonal reflections and poignant ſatire. This, I have no doubt, was a thouſand times verified, in almoſt every ſtage of his life, by thoſe who conſidered Baron Swedenborg ſuperior to themſelves, either in favour or abilities, or who ſuppoſed him touched with inſanity, among which claſs there are more to be numbered in this iſland than in any other part of the globe.

The active planet Mercury we find likewiſe in the aſcendant, approaching his own triplicity in the ſign Aquaries. The influx of this planet's beams, and the effect of their predominant mixture with the qualities of the other planets, in forming the intellectual part of man, has been already ſufficiently explained. In the preſent caſe, it is evident, that this poſition of Mercury gives to the native an acute and penetrating genius, a ſharp and ready wit, with a mind apt for the ſciences. And, when we add to theſe conſiderations, that Saturn is lord of the aſcendant, in his exaltation, and beholding the aſcendant with triangular beams, at the ſame time that the Sun, the prince over the planetary ſyſtem, beholds Saturn with a trine alſo, we ſhall not be ſurpriſed to find this native poſſeſſed of a moſt comprehenſive and elaborate underſtanding, fraught with the ſtrongeſt and ſublimeſt ideas. Indeed I am ready to confeſs, that out of all the long catalogue of nativities I have hitherto inſpected, I never found the planet Saturn ſo properly configurated

gurated to give an enlarged mind, nor the other ſignificators at the ſame time ſo amply correſpondent therewith, as in the geniture now under conſideration. How far this ability has been eſtabliſhed and confirmed in the native, let his attempts to pry into the depths of Eternal Nature, and to ſolve the villons of the Deity, determine for him.

But as there can be no eminent portion of good in this world ſince the fall, without ſome intermixture of evil; ſo in this nativity, notwithſtanding its eminent deſignation, and the high and important benefits promiſed by it in the ſcale of human acquirements, ſtill we ſhall find a certain portion of maleſic influence, of imperfection and misfortune, whereby the ſeeds of diſcontent and death are nouriſhed up, until they become predominant over all the powers and functions of our nature. Of this tendency is the baneful oppoſition of Saturn and Mars; an aſpect which operated with uncommon ſtrength and duration, both upon the mental and bodily functions of the native, giving him the moſt extraordinary enthuſiaſtic flights of imagination, and expoſing him to the cenſure of the learned, as well as of the illiterate, who charged him with exorciſm and madneſs. But let me here embrace the opportunity of aſſuring thoſe who have taken up this idea, that there are not the ſmalleſt traces of inſanity to be found in any part of this geniture. The native is perfectly ſound, and ſingularly competent, in his underſtanding; but, like the man who purſues the longitude, or the philoſopher's ſtone, beyond the beaten track of other adventurers, and is elated in proportion to the new lights he receives, or the hopes he forms of ſurpaſſing every other competitor, preciſely by the ſame ratio will the world meaſure his wits, and decide upon the competency of his underſtanding and the ſoundneſs of his brain.

We have before ſeen, that the native's mind was by no means formed for ſociety; for the beginning of all our deſires for community with others muſt be naturally founded in our love of intercourſe with the female ſex. The native never knew a predilection of the kind, but felt himſelf happieſt in the uninterrupted contemplation of his own ideas; and to ſuch a pitch has he indulged himſelf in this particular, that he has remained ſhut up in his private chamber for two, three, and four, days together, without admitting any perſon to make his bed, or even to rap at his door. This uncommon diſpoſition can only be accounted for by the poſition of Saturn, ſo remarkably elevated, at the ſame time that both the luminaries are under the earth, which gives a ſtrong and invariable propenſity to the native to lead a ſingle ſolitary life.

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To this grave and ſolitary turn we are to attribute his early acquaintance and familiarity with ſpirits. He has been often heard, in houſes where he lodged during his abode in London, for whole nights together, in converſation with theſe miſſionary beings, who become viſible to thoſe only that have reſolution to devote the whole of their time and attention to a community with them. How far Baron Swedenborg has benefited ſociety and himſelf, by the intercourſe he has had with them, let his ſeveral publications, now in univerſal ſale, determine for him. The queſtion is too delicate and abſtruſe even for an *aſtrologer* to decide upon; and it is a morſel which even the *critics* nibble at with unuſual precaution, leſt they ſhould be found *biting at a file*.

It has been a ſubject of diſpute, whether the ſpirits, with which Swedenborg had familiarity, were good or evil. For my own part, I have no difficulty in deciding, from the conſtitution of the planets in his geniture, that he had community with both; which I believe to have been the caſe with every perſon ſince the days of Adam, who has had familiary with ſpirits. Indeed Swedenborg himſelf tells us, that a certain ſpecies of the infernal ſpirits would at times intrude themſelves upon him; but that he was always preſerved, by the goodneſs of the Lord, from theſe inſidious deceivers of men; whoſe malice and enmity towards us is ſo great, that, were it not for the watchful care and protection afforded us by the clemency of God through the medium of the good genii, or lower order of the angelic hoſt, it would be utterly impoſſible for man to deliver himſelf from the power of hell and the craft of the devil. But I ſhall defer entering upon an elucidation of this ſubject, until I come to treat of Spirits, in the magical part of this work, where Baron Swedenborg's intercourſe with them will be completely inveſtigated.

I ſhall next conſider the ſignificators of the temper and diſpoſition of this native, to ſhew how far his general deportment correſponded with them. As we find Jupiter, Mercury, and the Sun in his aſcendant, and the Moon at the ſame time beholding that important angle with triangular rays, it is evident the temper and diſpoſition of the man muſt be formed from a due mixture of their influxive qualities, each of which would prove viſibly predominant, as they alternately came to act through the medium of their reſpective directions. Exactly ſo we find the native agitated and impreſſed. At one time his exterior would be uncommonly pious and devout, exhorting all men, who came within the reach of his voice, to humility, charity, and repentance. At another time he would totally ſeclude himſelf from all company, ſhut

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To

To this grave and ſolitary turn we are to attribute his early acquaintance and familiarity with ſpirits. He has been often heard, in houſes where he lodged during his abode in London, for whole nights together, in converſation with theſe miſſionary beings, who become viſible to thoſe only that have reſolution to devote the whole of their time and attention to a community with them. How far Baron Swedenborg has benefited ſociety and himſelf, by the intercourſe he has had with them, let his ſeveral publications, now in univerſal ſale, determine for him. The queſtion is too delicate and abſtruſe even for an *aſtrologer* to decide upon; and it is a morſel which even the *critics* nibble at with unuſual precaution, leſt they ſhould be found *biting at a file*.

It has been a ſubject of diſpute, whether the ſpirits, with which Swedenborg had familiarity, were good or evil. For my own part, I have no difficulty in deciding, from the conſtitution of the planets in his geniture, that he had community with both; which I believe to have been the caſe with every perſon ſince the days of Adam, who has had familiary with ſpirits. Indeed Swedenborg himſelf tells us, that a certain ſpecies of the infernal ſpirits would at times intrude themſelves upon him; but that he was always preſerved, by the goodneſs of the Lord, from theſe inſidious deceivers of men; whoſe malice and enmity towards us is ſo great, that, were it not for the watchful care and protection afforded us by the clemency of God through the medium of the good genii, or lower order of the angelic hoſt, it would be utterly impoſſible for man to deliver himſelf from the power of hell and the craft of the devil. But I ſhall defer entering upon an elucidation of this ſubject, until I come to treat of Spirits, in the magical part of this work, where Baron Swedenborg's intercourſe with them will be completely inveſtigated.

I ſhall next conſider the ſignificators of the temper and diſpoſition of this native, to ſhew how far his general deportment correſponded with them. As we find Jupiter, Mercury, and the Sun in his aſcendant, and the Moon at the ſame time beholding that important angle with triangular rays, it is evident the temper and diſpoſition of the man muſt be formed from a due mixture of their influxive qualities, each of which would prove viſibly predominant, as they alternately came to act through the medium of their reſpective directions. Exactly ſo we find the native agitated and impreſſed. At one time his exterior would be uncommonly pious and devout, exhorting all men, who came within the reach of his voice, to humility, charity, and repentance. At another time he would totally ſeclude himſelf from all company, ſhut

himſelf up for whole days together, and obſerve ſo ſolemn and profound a ſilence, as not even to give an anſwer when ſpoken to. Yet at other times he would enter into converſation with the utmoſt vivacity and ſprightlineſs, and continue for a long time together in this communicative humour; but always in a ſtile and manner remarkably elevated and majeſtic.

The reaſon of all this is abundantly obvious from the face of his horoſcope. The ſuperior planets being poſited in his aſcendant, in their full dignities, and conſequently in their greateſt influence and energy, acted upon the temperature both of his mind and body, as they reſpectively came up by direction, with uncommon force and power, whence the affections of his mind, his words, his actions, and every motion of his frame, were wound up to an uncommon degree, and diſtinguiſhed themſelves accordingly.

It will be readily ſeen, by any perſons acquainted with his diſpoſition and character, that the ſame general turn of temper and conduct was uniformly ſupported throughout the whole of his life, which might fairly be ranked amongſt thoſe of remarkable longevity. And it may be ſeen, by any perſon who will take the pains to equate the directions of thoſe ſuperior aſpects, that they operated by alternate ſucceſſion with equal force and influence, until the direction of death extirpated the co-incidence of their beams.

The natural cauſe of diſſolution in the temperament and conſtitution of Baron Swedenborg, was, as may be ſeen by the geniture, a decay of vital heat, occaſioned by a redundancy of cold rheum, accompanied with the bloody flux. The direction under which he died, was the Sun to a partile conjunction with the body of the Moon, taken under the pole of the Sun. The pole of the Sun is fifty-one degrees; the latitude of the Moon is one degree one minute north; then, by taking the oblique aſcenſion of the Sun, and the oblique aſcenſion of the Moon, the arch of direction will be fixed at eighty degrees ſeventeen minutes.

If we equate this arch or track of the aphetical and anaretical ſtars, by the rules heretofore laid down, we ſhall find it gives the ſpace of life to be eighty-ſix years and near two months, at which time the native emerged from this world into a world of ſpirits, namely, on the 19th day of March, 1772.

CONSIDE-

A Female
TWIN.
Born 27th March
2 H 20 M P.M.
1763.

A Male
TWIN
born 27th March
2 H 20 M P.M
1763

A TWIN
Born
10th June
8 H 44 M P.M
1788

A TWIN
Born
10th June
8 H 44 M P.M
1788

CONSIDERATIONS on the NATIVITIES of FOUR TWINS, whoſe Genitures are diſplayed in the annexed Plate.

Theſe four Twins were the produce of two births. The firſt birth conſiſted of a male and a female, who were brought into the world nearly together; from which circumſtance the reader would naturally infer, that the influx of the ſtars muſt have been the ſame on both of them; and, conſequently, that the duration of life, with its incidents and events, were inſeparable from each other. This not being the caſe, however, I ſhall proceed to account for it, upon the true principles and grounds of this ſcience. And firſt of

The FEMALE TWIN.

This child was born preciſely at the time ſpecified in the plate. Leo aſcends the oriental horiſon, and conſequently the Sun is lord of the aſcendant; but being in the eighth houſe, the houſe of death, is an infallible argument of a ſhort life. The Moon, being in an aphetical place, is the giver of life; but ſhews the deſtruction of it, by forming a quartile aſpect with the Sun in the houſe of death. No ſtronger evidence of an immediate death can well be adduced; for, ſince the Sun is author of vital heat, and the Moon of radical moiſture, and both of them at once deprived, by malefic rays and cadent poſitions, from affording a fit and due proportion of thoſe nouriſhing qualities, it is impoſſible that life ſhould be longer ſuſtained than during the time this unfortunate aſpect was forming.

It might be contended, that the poſition of the benevolent planet Jupiter in the medium cœli, or tenth houſe, is highly favourable to the preſervation of the child. But, when it is conſidered that this planet has no aſpect with the luminaries, that its beams are only reflected into itſelf, and that all communications with the aſcendant and ſignificators of life and death are cut off, we ſhall find that this eligible poſition of the benign Jupiter is in the preſent caſe totally without the power of communicating the leaſt aid to the functions of life, or of mitigating or leſſening the malevolent effects of the anaretical influence.

A further proof of this child's diſſolution ariſes from the Moon's poſition in the terms of Mars, at the ſame time that his fiery intemperate beams are conjoined with the worſt irradiations of the cold planet Saturn, and thereby act upon the conſtitution with violent oppoſite extremes.

tiones. We find alſo that both the Sun and Saturn are diſpoſed of by Mars; to whoſe ſuperior influence Mercury bends, who, with the Moon, nouriſhes and protects the brain. Hence it is obvious that the child ſhould die in its infant ſtate, partly from the want of natural ſtamina and ſtrength, and partly from the effects of a cold ſucceeded by a fever; and that this cold ſhould be of the moiſt kind appears from the trian-gular rays of Mercury and the Moon in the watery ſign Piſces. The child only lived until the quartile aſpect of the Sun and Moon was completely formed, when the weakneſs and debility of its body and lungs gave way to the convulſive agitations of the whooping cough, ſuc-ceeded by cold chills and fever, the immediate effects of the configura-tion of Saturn and Mars; ſo that nothing leſs than a ſupernatural cauſe, which we juſtly call a miracle, could poſſibly have ſaved this child's life. I ſhall next conſider the little offſpring which accompanied it, and this was

A MALE TWIN.

This child came into the world only about two hours after the former, and yet it is not ſubject to the ſame fate. The Moon is prorogator in this nativity, as well as in the other; but with this remarkable diffe-rence, that both the luminaries are going from aſpects of affliction, in-ſtead of approaching to them. The Sun is entering into the ſeventh houſe, promiſing vital heat and ſtrength, while the Moon, juſt ſepa-rated from a noxious quartile, gives teſtimony to it, by affording due proportion of health and nouriſhment, being located in her own houſe in the ſign Cancer. So that, conſidering the newly-acquired ſtrength of the Moon, and the poſition of the Sun in a ſign of his own exaltation, emerging from quadrangular beams of affliction, we are afforded the moſt ſatisfactory evidence of a ſound and perfect conſtitution in the tempera-ture of this native, with ſufficient teſtimonies to enſure health and longevity.

The varied poſitions of the other ſignificators afford us additional rea-ſons, of a very ſtrong and deciſive nature, why this Twin ſhould live to years of maturity, while its little companion ſhould ſcarcely be per-mitted to ſee the light of this world. The conceptional arrangement deſcribes the ſuperior ſtrength of this child in the womb, and declares it to have drawn to itſelf a conſiderable part of that nouriſhment which ſhould have fallen to the ſhare of its ſiſter.

As therefore the poſition of the luminaries in the other birth declared a ſhort life, ſo in this they afford equal teſtimonies of longevity; and conſe-

conſequently the cauſe of death will be ſought from different ſpeculation; for, though the Moon be giver of life, the cauſe of death will be different. In this nativity Saturn is the anaretical planet, and the native will in all probability be carried into the other world by the dropſy. He will live until the Moon's body forms a mundane quartile aſpect with Saturn and Mars; at which time, according to natural cauſes, his thread of life will be cut in twain—when his body will return back to the earth, and be re-incorporated with the elements, while his etherial or eſſential part mixes with that tormented or bleſſed claſs of ſpirits to which the complexion of his conduct here ſhall recommend him hereafter. The youth is living, and I hope will draw a friendly admonition from theſe premiſes.

Of TWINS born immmediately together.

The genitures of theſe Twins are diſplayed in the lower part of the ſame plate. The one was born on the 19th of June, 8h. 40m. P. M. or afternoon, and the other at only 8h. 42m. of the ſame day. The difference of time is therefore only two minutes; which admits of ſo little variation in the poſitions of the planets, and in the coincidence of their beams, either in reſpect to the angles of the figure, or to the temperature of the ambient matter, that each Twin muſt of neceſſity ſhare the ſame fate, in all the important conſiderations attending the iſſues of life and death.

To eſtabliſh this fact, we need only contemplate the horoſcope, and compare it with the circumſtances of the genitures we have juſt diſmiſſed, whereby it will be ſeen, that the difference of two hours has moſt eſſentially varied the impreſſions of the ſignificators at the time of birth in the former horoſcope; while, in the preſent caſe, no ſuch diſtinction can be found; and conſequently, the effects of the elementary matter being the ſame, and the beams of the ſtars falling in the ſame direction, and with equal force, cannot afflict one infant without the other feeling the ſame affection; not inſtantaneouſly, but in a ſpace of time preciſely equal to that in which the planetary ſyſtem moves in two minutes. This I have obſerved in a variety of inſtances; and it is to this very remarkable circumſtance that the common notion of mankind relative to Twins, that, *when one is taken ill and expires, the other will ſoon follow*, has obtained ſo much confidence in every part of the univerſe; though we have ſeen, in the foregoing geniture, that this happens only where Twins are born immediately together, and not where any conſiderable time intervenes between their birth, unleſs the conſti-

tution of the ſtars ſhould be ſo configurated as to continue the ſame benefic or malefic influence during the whole of that ſpace of time; which rarely happens, owing to the difference of velocity in each reſpective planet, and the accidental circumſtances of their becoming retrograde or ſtationary.

To determine the fate of theſe Twins, we have only to conſider the poſitions of the luminaries with the aſpects of the erratic ſtars, and it will be evident that their exiſtence can be but of very ſhort duration, and is determined by the motion of the *primum mobile*; for, when Mars came to the oppoſite point of the Moon, which in theſe genitures is *giver of life*, it is apparent they would die. This was exactly verified; Mars came to the firſt anaretical point in two hours, and to the ſecond in two hours and an half; and the children accordingly died within half an hour of each other, and within two hours and an half of the time of their birth.

But, to ſhew that life could not be prolonged in either of theſe infants, we will take a further view of their genitures. The Moon, we find, is in her detriment, diſpoſed of by the malignant planet Saturn, within the rays of an oppoſition of Jupiter and Mercury, who become ſubſervient thereby to the affliction of that ponderous malefic. The Sun is going down under the affliction of Mars, diſpoſed of by Mercury, in houſes cadent and naturally evil; whereby every thing born under their influence is deprived of vital heat and nouriſhment. The Moon's poſition, likewiſe, in the phaſis of Mars and terms of Mercury, much ſtrengthens this judgement; beſides, Mars is dignified in his own terms, while the Sun is received in the terms of Mars, as well as of Jupiter; ſo that four planets out of ſeven are in the dignities of his malefic influence, and partake of his temperature. Theſe are all teſtimonies of a ſhort life, and, falling ſo immediately together, render the ſpace of life of a ſtill leſs duration.

But, had it been poſſible for theſe Twins to have out-lived the elementary influx of theſe deſtructive configurations, ſtill they would have died ſhortly after they had paſſed their infancy, under the anaretical affliction of the Sun directed to the oppoſitional rays of the Moon, who, being giver of life, would have had her vegetive ſtrength and virtue totally abſorbed by him, whereby vital heat and animal pulſation muſt have totally ſubſided.

And

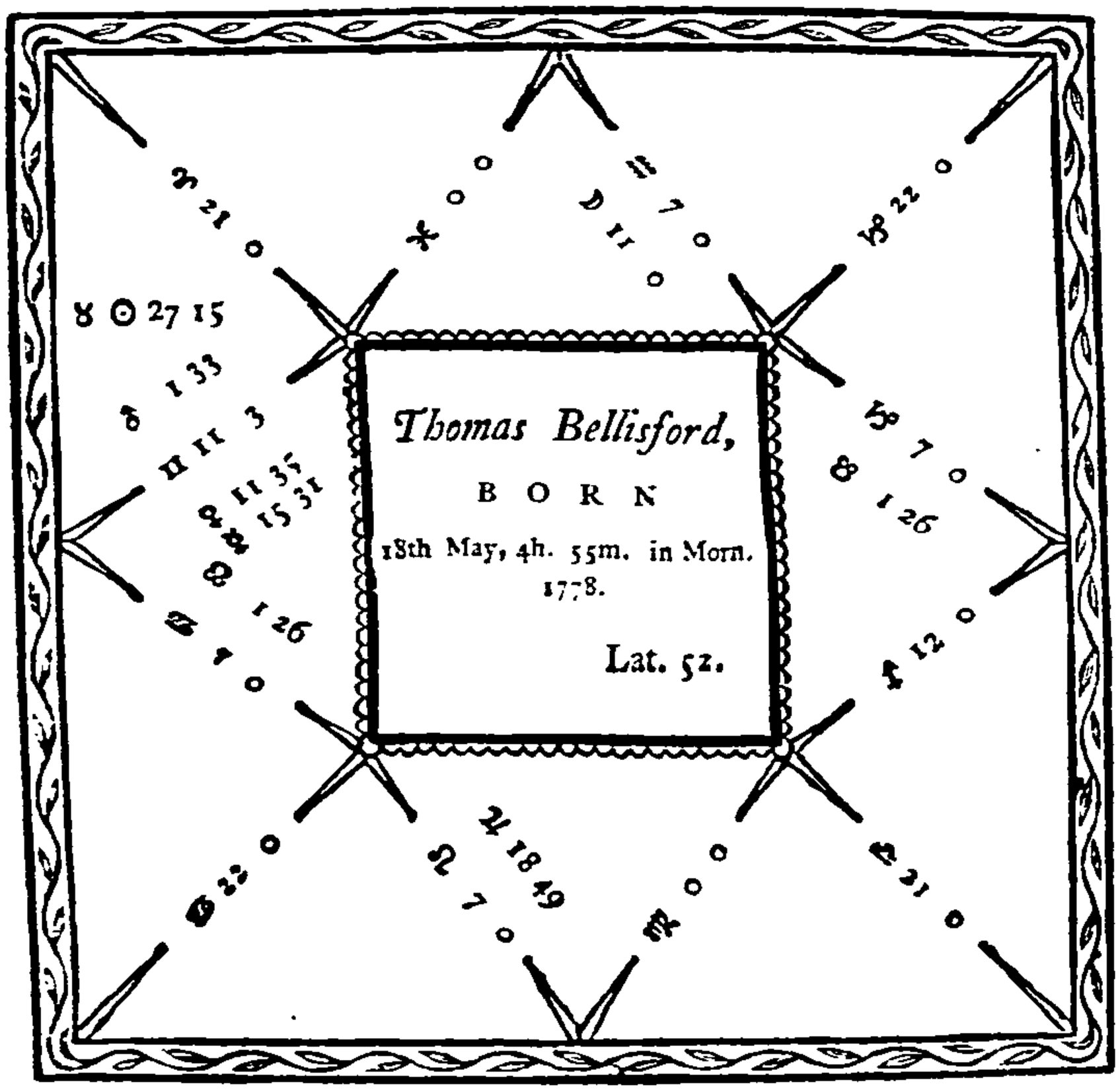
And here we deduce a cauſe moſt obvious to the ſenſes, and ſtrictly conformable to the laws of nature, why the anaretical influence is ſometimes baffled by the ſuperior ſtrength of the native's conſtitution, aſſiſted by the rays of aphetic ſtars, whereby the diſeaſe or accident is baffled, though death were pronounced inevitable, both by phyſicians and friends; ſo that, when the anaretic influence is thus overcome, the patient acquires immediate ſtrength and ſpirits, eats and ſleeps, and recovers his health and vigour in ſo ſurpriſing a manner, that the phyſician is cried up to the ſkies, as *the fineſt man in the world*, at the very moment when he himſelf is as much at a loſs to account for the cauſe as the moſt ignorant of his panegyriſts.

Thus it happens in many genitures, and requires the aid of reaſon and philoſophical acquirements to decide poſitively on the effects of configurations which involve ſo much doubt, and appear equally undeciſive in point of life or death, though obvious and certain as to the violence of the diſeaſe or accident whereby the native ſhall be afflicted.

The ſureſt way of forming our judgment in theſe caſes, is to direct the aſpects of the ſtars which bear principal rule in the hylegiacal and anaretical places of the horoſcope, far beyond the æra of ſuch undeciſive malignant influx, at leaſt till another death-like configuration is formed by them; and, if this appears the moſt ſtrong and powerful in favour of the killing rays of the anareta, it will generally be found that abſolute death will not happen to the native until the ſecond congreſs of theſe important ſignificators is completed in the heavens, notwithſtanding the danger threatened by them in their firſt confi uration may make it next to a miracle that the native eſcapes with his lif

Of GIGANTIC STATURE.

The following figure exhibits the geniture of a Child born with ſix fingers on each hand, and ſix toes on each foot, and thoſe double-jointed.



Latitude of the Planets.

☽	North	2	35
☿	North	1	1
♂	North	0	19
♀	North	0	30
♃	North	1	10
♄	South	3	55

This

This nativity is of a very rare kind, affording an eminent example of the effect of prolific configurations, where only one fœtus is produced under the nutritive qualities nature had intended for two. The poſition of the luminaries here, in ſigns fruitful and obeying, with nearly all the planets under the earth, give the moſt demonſtrable proofs of large and high ſtature, that can well be adduced; but the additional fingers and toes reſult from the fecundity of four-footed ſigns, occupying the angles of the figure, at the ſame time that the luminaries are ſuperior to all the other planets, whoſe regulating influence in this nativity is totally withheld.

The Sun being in the twelfth houſe, and in degrees encreaſing fortune, ſhews that the native ſhall thrive in the world by the rarity of his parts; and ſo it has in ſome meaſure already happened, and will in a much more eminent manner hereafter, as this youth encreaſes in bulk and ſtature. He has now been ſhewn as a natural curioſity for ſome years, and a great deal of money has been accumulated by that means.

We have, in the introductory part, already ſhewn the radical cauſe of this ſuper-abundance of nature in its formulary operation; and in this figure thoſe rules are completely verified. For neither the ſuperior nor inferior planets having dignities in the aſcendant or medium coeli, nor aſpect therewith, and the principal light of time being in the twelfth houſe, with the Moon in the mid-heaven, and in the ſigns Gemini, Sagittarius, or Piſces, in azimene degrees, is a demonſtrable proof that what is then born ſhall exceed the common line of nature, and be either monſtrouſly miſhapen, or above the common bulk of mankind. In the preſent caſe we find both has happened, as well in the exceſs of members as in the muſcular proportion and altitude.

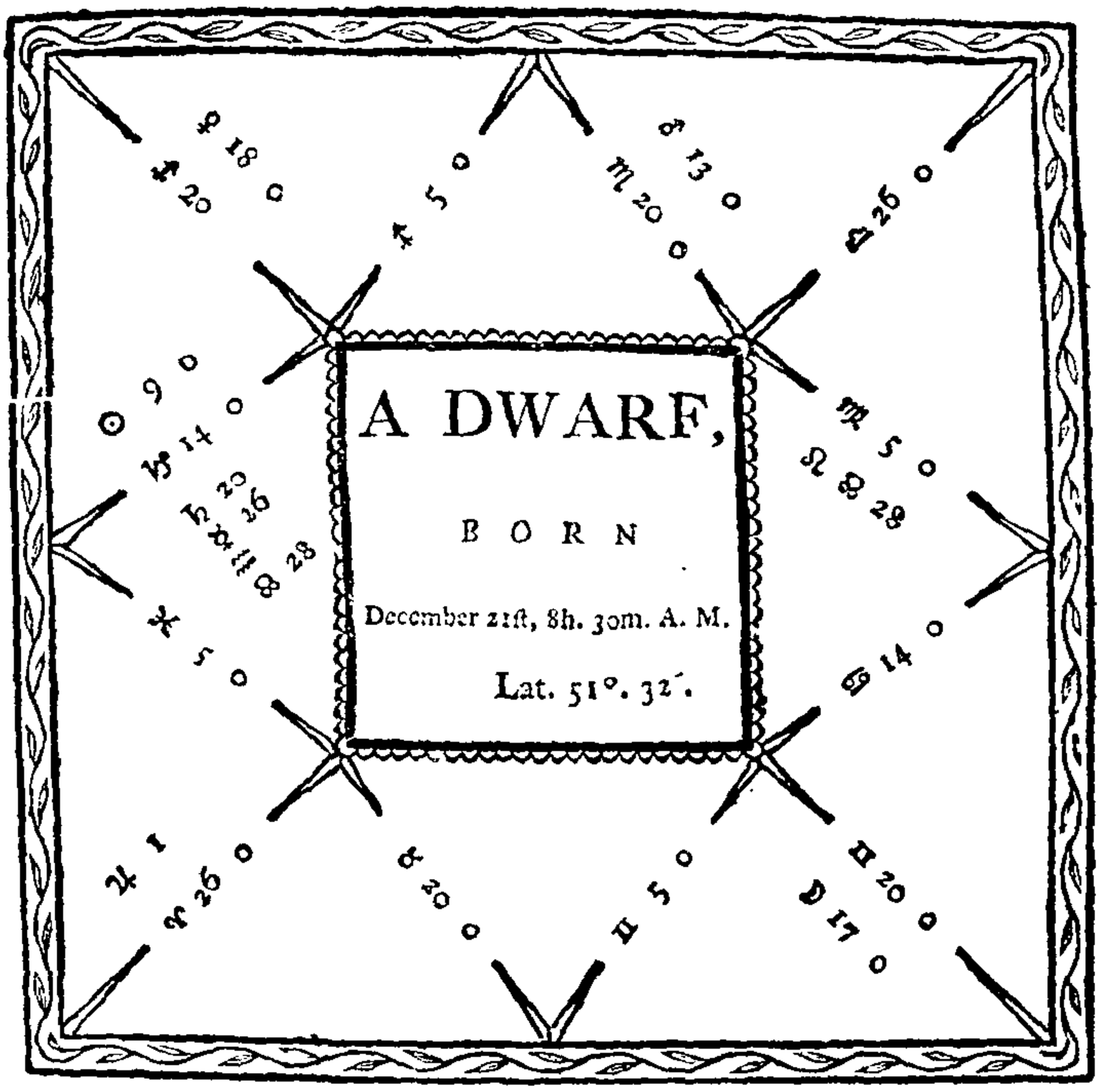
According to the ſame mixture and quality of the formative matter, we find ſimilar conceptions take place, whenever Saturn afflicts the Moon in an angle poſſeſſed by beaſt-like or double-bodied ſigns, with the Sun's ſuperior beams increaſed by ſigns of long aſcenſion, and carried to the ſame point by ſextile or triangular rays. Under ſuch a ſynod of planetary ſignificators, gigantic ſtature, or inconceivable corpulency, is ſure to take place. Indeed I have been confidently informed, by a gentleman who had for many years made Aſtrology his amuſement, that this was nearly the poſition of the heavens, in the genethliacal figure of the much-celebrated Mr. Bright, ſo famed for his corpulency and ſtature.

Again, whenever the aſcendant, Sun, or Moon, at the time of conception, is afflicted in the obſcure parts of the figure by Saturn, and in ſigns double-bodied, beaſt-like, and prolific, exceſs of parts and ſtature will be produced, either general, as to the whole body, or elſe in thoſe particular parts only which are under the government of the ſigns reſpectively occupying the aſcendant and midheaven. But, to aſcertain theſe circumſtances with due preciſion, we muſt erect the conceptional figure of every nativity, to diſcover the tendency and influence of the formative virtue in the earlieſt ſtate of the embryo.

It may alſo be remarked, that monſtroſity in brutes originates from the ſame cauſe; and, as they are deprived of the functions of reaſon, it is plain the planetary influx acts with greater force upon them; and more frequently produces this ſurpriſing effect.

The

The GENITURE of a DWARF.



Latitude of the Planets.

♄	0	40	North.
♅	1	43	South.
♂	0	33	North.
♀	1	59	North.
☿	2	11	South.
☽	4	50	South.

In this nativity Capricorn, a ſign of brevity, aſcends the horoſcope, and Saturn, being lord thereof, by his cold and dry nature, oppoſes the nutritive power of the Moon, which, being in an abject place under the earth, can afford no nouriſhment. This effect is produced through the medium of Mercury, who, being in conjunction with Saturn, diſpoſes of the Moon, and participates in the qualities both of Capricorn and

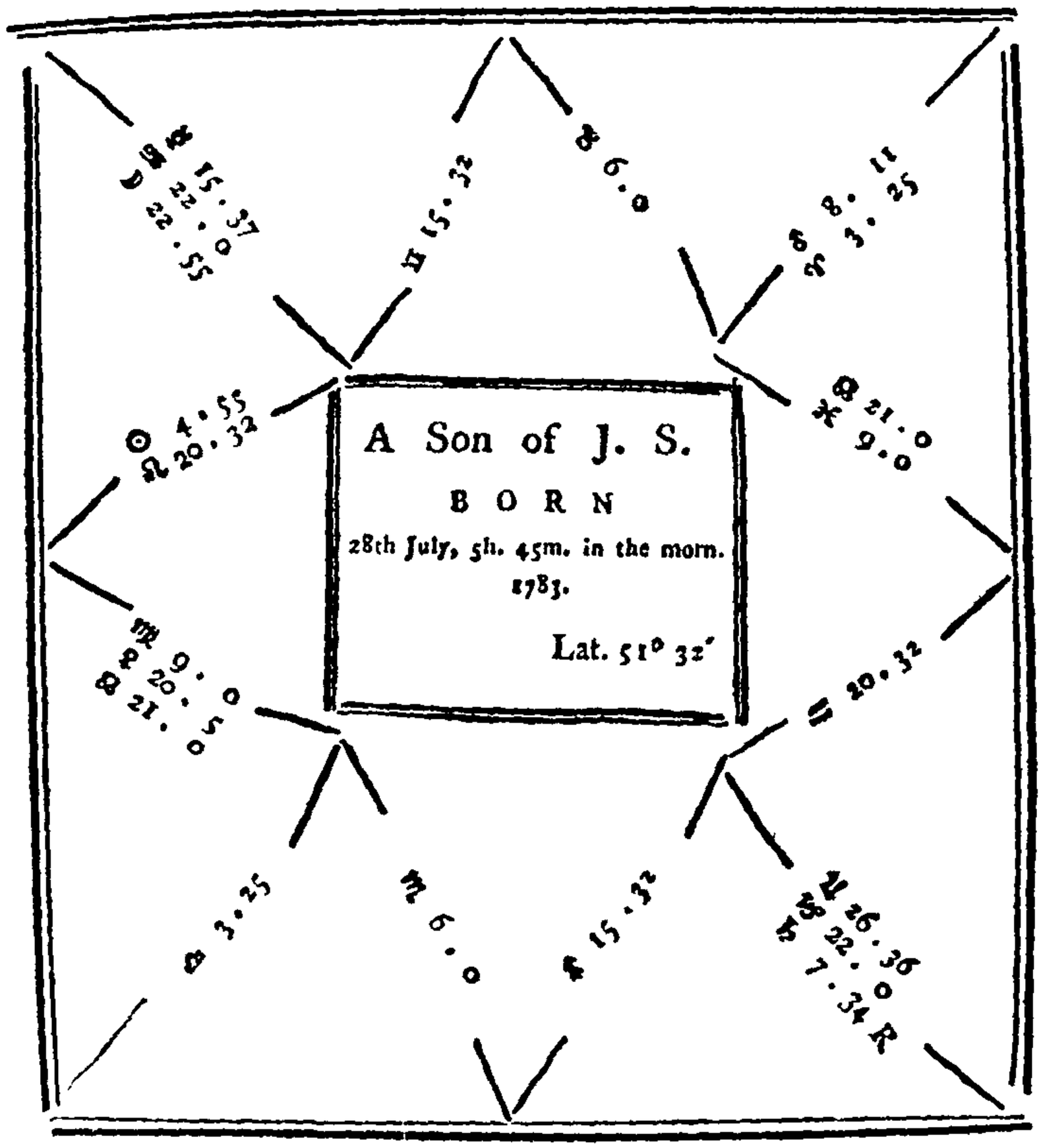
Saturn

Saturn. Mercury at beſt gives but a ſmall ſtature; but, configurated with theſe rays, he contributes all his influence to check the growth and nouriſhment of whatever is conceived under it.

It is here likewiſe a moſt remarkable circumſtance, that Mars, from a ſign of brevity, beholds the Sun by a ſextile ray, poſited alſo in a ſign of brevity, ſo that the ſigns occupying the principal angles in this geniture are preciſely of an oppoſite quality and influence with thoſe in the laſt figure, and conſequently have a tendency and effect diametrically oppoſite thereto. And ſo indeed we find it; for this native, inſtead of exceeding the common ſize and ſtature of man, will never grow to the height of four feet, nor poſſeſs limbs nor parts larger than the common run of boys of ſeven years old.

An additional teſtimony in favour of this opinion is the quartile aſpect of Jupiter and the Sun from brevious ſigns, which uſually demonſtrate the conception of a Dwarf. But indeed it is an univerſal maxim in this ſcience, that whoever hath an earthy ſign aſcending the horiſon of his nativity, with two or three planets poſited therein, will certainly be but of low ſtature, particularly if Saturn be located amongſt them; for a cold and dry temperature, excluded from the heat and moiſture of the two luminaries, is contrary to the natural growth of any thing, as we may ſee by the ſtate of vegetation in the autumnal equinox.

Of a SHORT LIFE, or EMBRYO not nourished.



Latitude of the Planets.

♄	2	34	North.
♅	0	38	South.
♂	4	20	South.
♀	0	15	North.
☿	1	40	South.
☽	4	15	North.

In this figure we find both the Sun and Moon, the two great luminaries, one the author of vital heat and motion, the other of radical nourishment and moisture, both posited in conjunction in the twelfth house, which is the mansion of the *evil demon*, and shews the immediate termination of whatever is generated under it. Besides this, we find Jupiter, lord of the house of death, in opposition with the Moon;

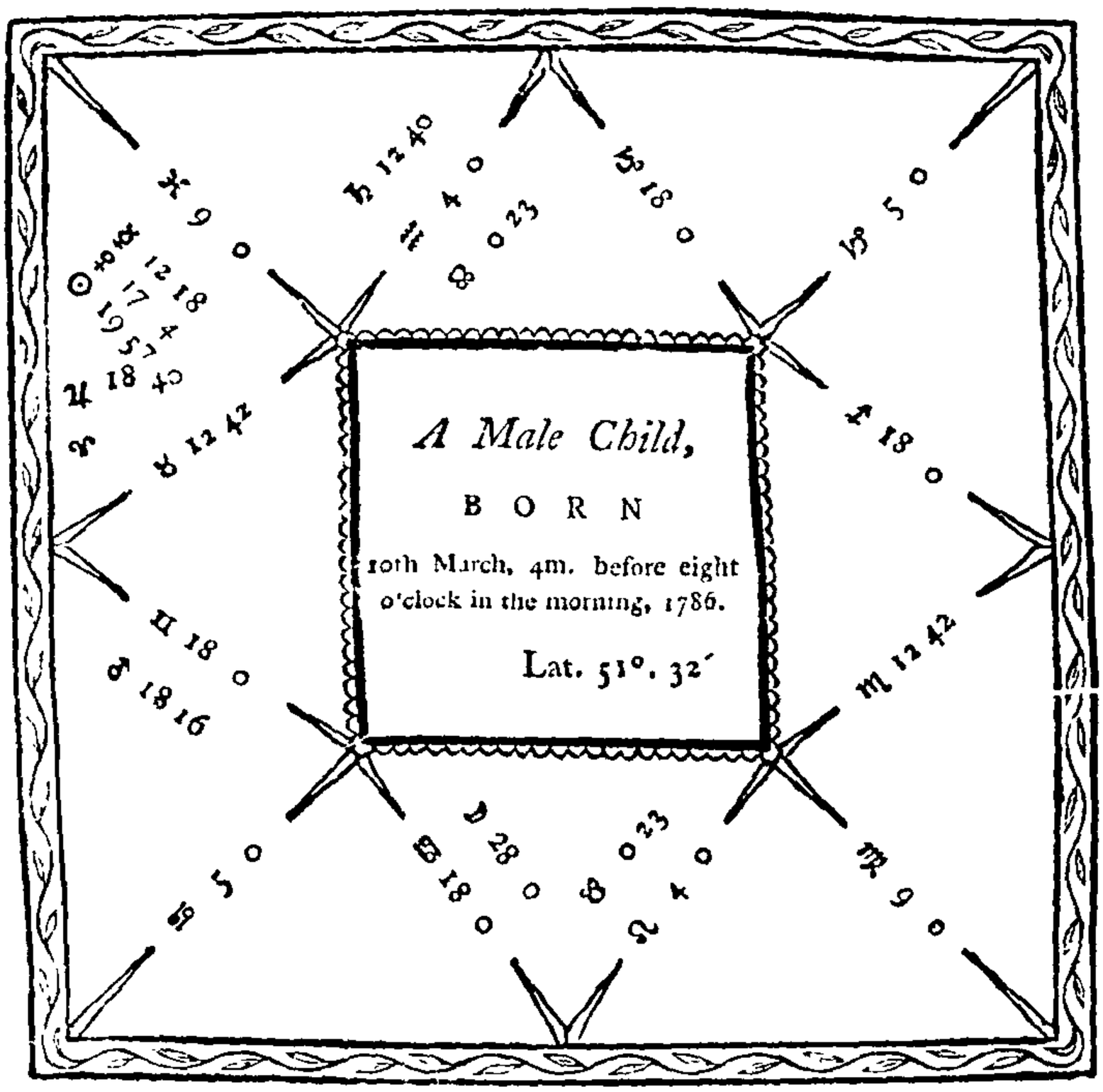
and Mars, who beholds the Sun with triangular beams, hath the vivifying quality obtained thereby totally deſtroyed by the pernicious quartile configurations with Saturn, lord of the ſixth houſe.

Theſe qualities and temperatures of the planets demonſtrably ſhew, that the embryo in its original formation was void of ſtamina, and that the nouriſhment, during its continuance in its mother's womb, was ſcarcely ſufficient to ſuſtain life. It is evidently born without any particular accident or indiſpoſition; and yet it is as plain that it cannot long ſurvive the day of its birth; and the reaſon is, becauſe the digeſtive and expulſive faculties, the motion of the lungs, and the vibration of the heart, have not ſufficient ſtrength or ſtamina to perform their reſpective functions, and the moment the ſtomach comes to be ſurcharged with food beyond its digeſtive power, the infant will be ſeized with ſpaſms, and die almoſt inſtantaneouſly, nearly in the ſame manner as though it were ſuffocated.

I caſt this nativity ſoon after the child was born, and prepared the mind of its mother to meet its loſs with reſignation and ſubmiſſion to the will of God and nature. The ſpace of life will be ſeen, by taking the diſtance of the Moon from that preciſe point in the heavens which forms an oppoſition with Jupiter, lord of the houſe of death. This gives, by the ſolar motion, about four days; and the child died exactly in the way I had deſcribed, on the firſt of Auguſt following, which is four days from its birth.

Another

Another EMBRYO not nouriſhed.



Latitude of the Planets.

♄	0	41	South.
♃	1	6	South.
♂	2	6	North.
♀	1	26	South.
☿	2	0	South.
☽	2	25	North.

This geniture is of much the ſame quality of the former, but the poſition of the horoſcope at the time of birth is much more remarkable, having ſo many planets in the twelfth houſe. This is in all caſes an unfortunate omen, but particularly in the preſent, where no one friendly ray can be found to oppoſe their influence. On the contrary, we find Mars in the ſecond houſe, afflicting theſe ſtars with a quartile irradiation,

tion, having dignities at the ſame time in the twelfth; which is a powerful argument not only of certain death, but rather of an immediate and violent nature. Jupiter being lord of the eighth houſe, is in ſextile with Mars, and both of them are lords of the twelfth. Venus, lady of the aſcendant, is beſieged by Mercury, lord of the ſixth, and the Sun, the only light of time, and the Moon, lady of the fourth, afford neither nouriſhment nor aſſiſtance, whereby conception could be ſtrengthened, or the functions of life ſufficiently formed.

In the conceptional figure of this infant, both the luminaries are afflicted in angles, by the noxious rays of the malefics, whereby ſtamina is denied, and proper nouriſhment entirely prevented from reaching the vital parts of the body. This may be ſeen, by comparing the figure with thoſe rules heretofore laid down in the former part of this work; from whence the attentive reader will be ſufficiently enabled to perceive, that the duration of this child after its birth could not exceed more than four days; at which time it was ſeized with convulſions at the breaſt, and died in the greateſt agonies.

Many other nativities might be adduced, of this and the like kind, to ſhew the obvious power and agency of the ſuperior world, in forming earthly Man, who is an epitome of the whole ſyſtem, and "wonderfully and fearfully made," partaking of all its eſſence and parts, and compriſing the fair image of the Deity. But ſurely, after the facts that have been eſtabliſhed, and the examples we have given, in almoſt every ſtate and contingency of human nature, it can anſwer no good purpoſe to multiply theſe inſtances of aſtral influence and prediction, particularly to minds that are wilfully deaf to reaſon and argument, and who obſtinately ſhut out the light of heaven, leſt it ſhould irradiate their underſtanding, and convince them they are but men of low and humble conceptions, in no ſhape qualified to determine the pathleſs ways of God, or to meaſure the extent of his omnipotence.

CONSIDERATIONS *on a* QUESTION *of* MARRIAGE, *deduced from the* NATIVITIES *of the contracting* PARTIES, *and confirmed by an horoſcopical Figure of the Heavens, at the preciſe Time of celebrating the Nuptials.*

Much has been ſaid on the ſubject of Matrimony; and it muſt be confeſſed, that the importance of the contract, and the great end of our exiſtence being involved in it, as well as the ſublunary happineſs or miſery of the greateſt part of God's children upon earth, renders it a

ſubject

ſubject of the firſt magnitude, in which the hands and hearts of both ſexes, of all ages and degrees, are with one conſent united. I therefore conſider myſelf in ſome reſpects bound to ſtate the preſent queſtion, as an example whereby to render this enquiry facile and eaſy to ſuch of my readers as chuſe to employ their leiſure hours in this ſpeculation.

The circumſtances of this marriage came under my own immediate cognizance and obſervation; and they are ſuch as, I truſt, will operate as a caution to every ſingle perſon, not to enter into that holy ſtate from mere motives of advantage or convenience, when love is confeſſedly wanting on the ſide of either of the parties. But cautions now-a-days are out of date; and the admonition of friendſhip is regarded only as the ſubtil declamation of hypocriſy, or the buſy officiouſneſs of a marplot.

The lady, who is the ſubject of the preſent queſtion, came to obtain my opinion and advice how far the preſent marriage would prove advantageous and happy, confeſſing, at the ſame time, that ſhe had no great regard for the old gentleman. I ſtopped her, as is always my cuſtom, from entering into particulars, and deſired her only to furniſh me with the exact time of her own nativity, and to procure me, if poſſible, that of the party to whom ſhe was engaged. This was complied with, and I drew my judgment accordingly.

Upon comparing the radical conſtitution of the two genitures, I could not find a ſingle configuration in the one that bore the leaſt harmony or ſimilitude with the other. The benefic ſtars in the angles of one figure were oppoſed by the malefics in the angles of the other. The *maſculine* temperature was ſtrongeſt in the female horoſcope, with the Moon and Mercury in good aſpect in the fifth houſe; while, in the man's geniture, the effeminacy of *female* influence was but too apparent, with the mortifying teſtimony of Saturn, lord of the aſcendant, in oppoſition to Mars, the lord of the fifth, and the Moon afflicted in a cadent houſe.

The places of marriage in both figures were occupied with the leſſer infortunes, but not diſcordant; neither were they harmonized by a ſingle ray of benefic influence. I therefore ſaw the probability of marriage taking place betwixt them, at the ſame time that the warm paſſions of the woman rendered it impoſſible for her to be happy in the arms of a cold, frigid, aged, barren, and almoſt impotent, huſband. I clearly ſaw avarice had a ſhare in her compoſition, and that the hope of advantage ſupplied the place of connubial affection. This I detected, and condemned as highly

highly reprehenſible, and at the ſame time candidly pointed out the natural infirmities of the man ſhe propoſed to call huſband, which, added to his ſuperiority of years, made it impoſſible for her to enjoy the natural felicities of a married life, or that they could long live and cohabit together. My advice was therefore to drop all thoughts whatever of ſuch a connexion, and a reſolution was apparently formed for that purpoſe; but the contrary perſuaſions of friends, added to the ſordid temptations of lucre, in a ſhort time got the better of my advice, and on the 29th of November then next following this couple were married.

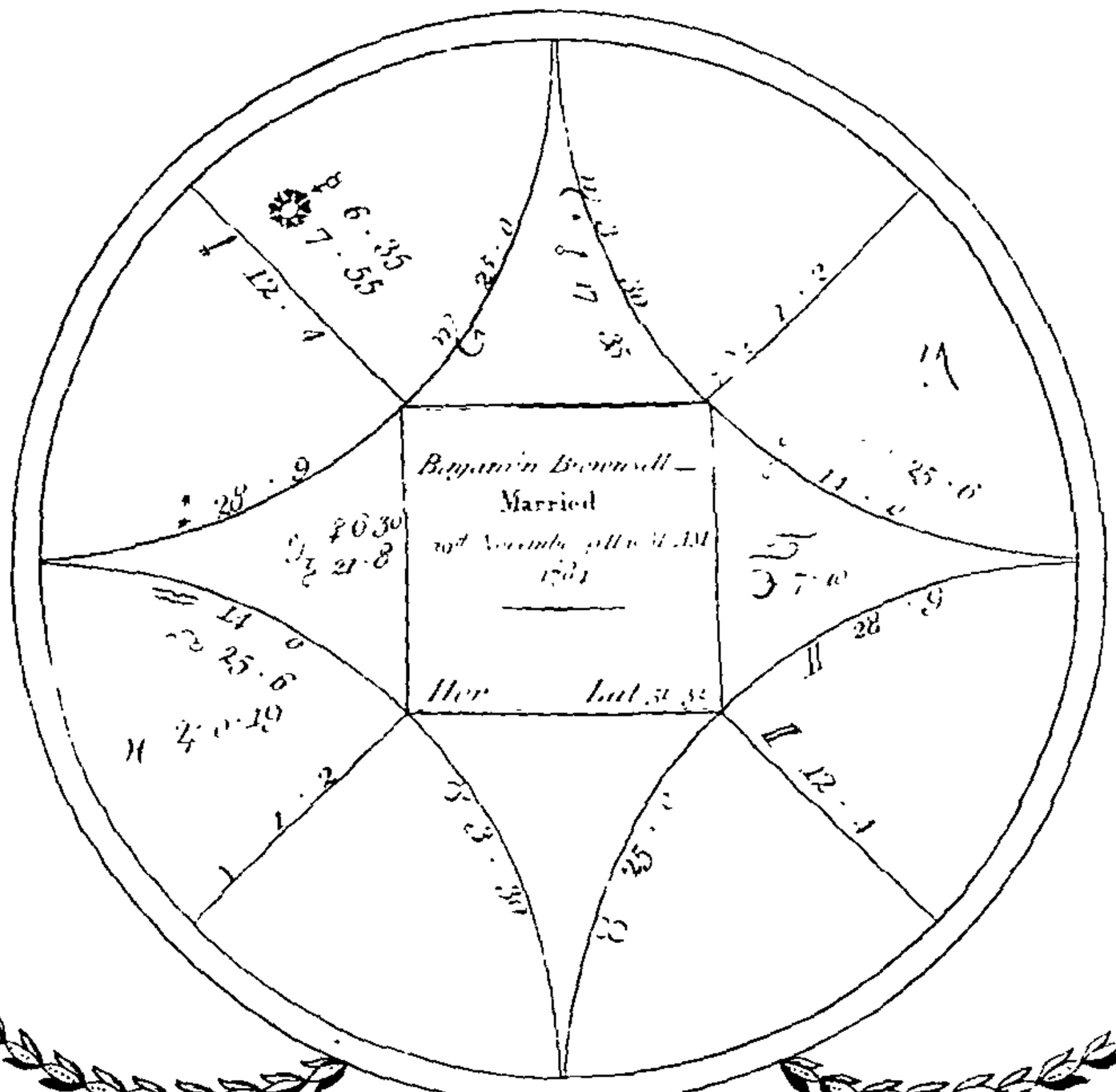
Determined to be confirmed in my judgment of this curious match, I took down the exact time the ceremony was performed, which was at forty minutes paſt nine in the morning, when the heavenly intelligencers diſplayed themſelves as in the annexed plate, and the ſignificators correſponded with their reſpective genitures, in a manner aſtoniſhingly correct, and ſo as to prove, to the ſatisfaction of every reaſonable mind, that the impulſive or inſtinctive faculty within us is ſtirred up and excited by the medium or influxive agency of the celeſtial bodies.

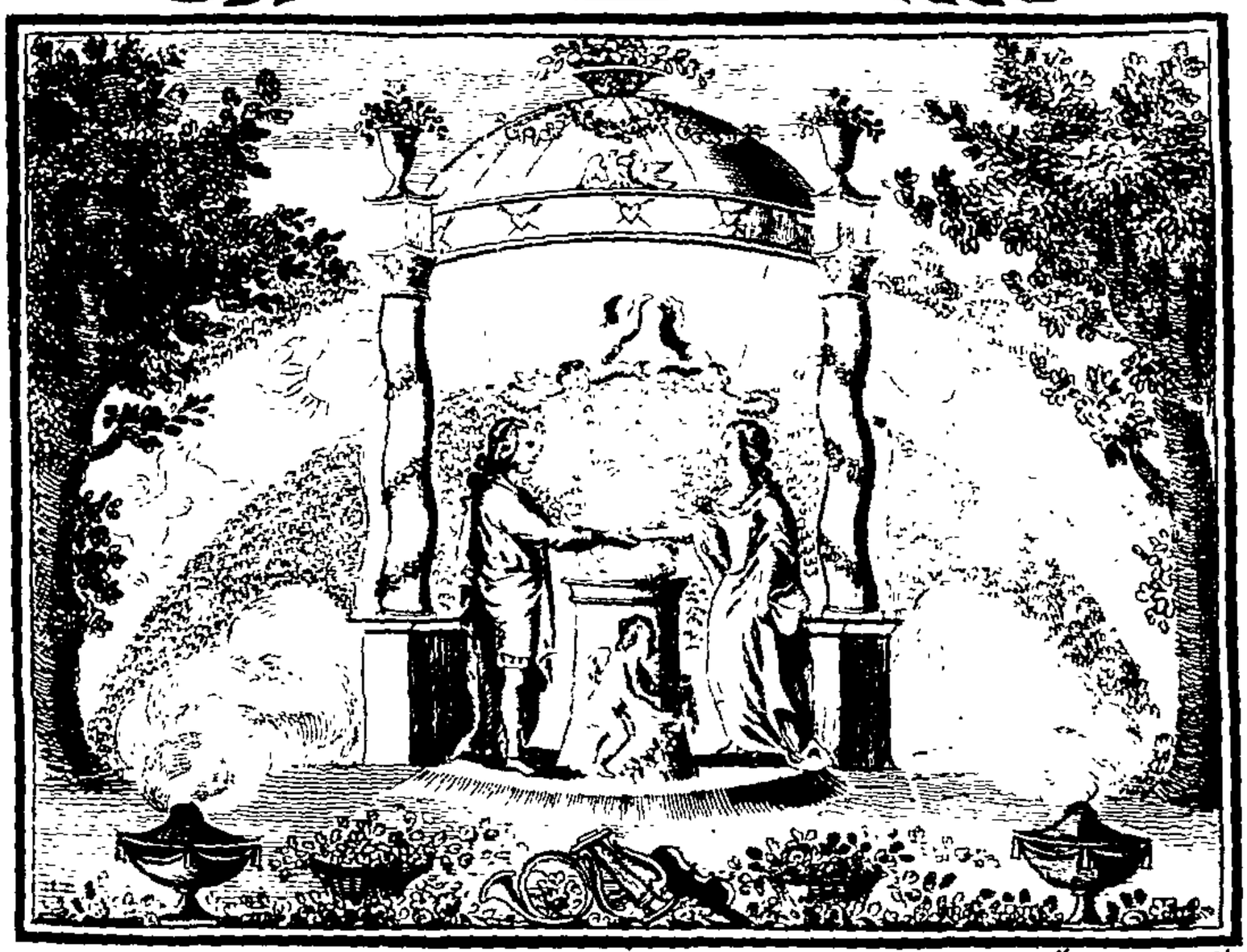
The aſcendant of this matrimonial figure is given for the bridegroom, and the ſeventh houſe for the bride. Saturn we find is ſtill lord of the aſcendant, located in his own houſe, and moſt aptly deſcribes the perſon of the bridegroom, viz. a tall lean and ſlender perſon, advanced in years, with long viſage, dark hair, meagre complexion, and peeviſh diſpoſition; whilſt his imbecility is moſt correctly denoted by the poſition of Venus, diſpoſed of by the frigid planet Saturn in Capricorn.

The Moon in Cancer, in the ſeventh houſe, repreſents the bride; and deſcribes her to be of a middle ſtature, round full face, brown hair, and well proportioned; and, as the Moon is approaching to a trine aſpect with Mars, it ſhews her to be a woman of ſtrong paſſions and ſpirit; hot, fiery, and impatient, though good-natured and courteous.

Let it here be premiſed, that, in all marriages where the two ſignificators which repreſent the bride and bridegroom are not in good aſpect with each other, it is impoſſible the parties can live in harmony with each other; neither do they come together by the impulſe of pure love, but for ſome other motive, which may generally be known by examining what houſe the lord of the aſcendant or ſeventh houſe applies to, and the nature of the planets by which they are then occupied; for, if the lord of the eighth apply to the lord of the aſcendant, or if there be no reception of the luminaries in their nativities, they are carried to

the





Marriage of Benjamin Brownell. Matthews. Chap 13. Verse 4.th

the hymeneal altar, not by the force of love, but by motives of avarice. Sometimes indeed we find love to be on one ſide, and intereſt only on the other. This is when the lord of the aſcendant is a ſuperior planet, and the lord of the ſeventh an inferior one of a contrary nature, and yet applying to the lord of the aſcendant. Again, we find marriages take place where there is no love at all, as is the caſe in the above figure, where Saturn, a ſuperior and ponderous planet, ſignificator of the man, is poſited in his own houſe; and the Moon, a light and inferior one, and ſignificatrix of the woman, likewiſe in her own houſe, but both of them in oppoſite ſigns, is a demonſtrable proof of avarice on one ſide, but of love on neither.

Upon the whole, mutual convenience may be traced out as the primary incentive in both theſe parties. The man was rich and old; the girl young—but not rich. So Mars, being lord of the tenth houſe, and poſited therein, collects the rays both of Saturn and the Moon; and, being ſo much higher elevated, impreſſes with a ſtronger influx this diſpoſition upon their inclinations, and proves to us that their hands were joined, but not their hearts.

Jupiter, in all caſes where he is free from malignant beams, hath deſignation of perfect honeſty. In this figure we find him juſt entering into his own houſe, in platic trine to the Moon, and in ſextile with Venus. But, although he thus favourably irradiates theſe two prolific planets, ſo as to impel a joint inclination to have the marriage ceremony performed, yet, by being in quartile aſpect to the Sun and Mercury in the eleventh houſe, which is the bride's fifth, and conſequently her houſe of children, pleaſure, and delight, it plainly demonſtrates, that, though ſhe ſhould have no offſpring by her huſband, ſhe would take care to acquire it by other means.

The Sun and Mercury have dignities in the ſeventh houſe, and conſequently have ſtrong ſympathy with the bride; but, being poſited in the eleventh, they become ſignificators of enemies of the bridegroom. The Sun having his triplicity in the twelfth, and being within five degrees of the cuſp, united at the ſame time with Mercury, ſhews that their influence will be of the like nature and tendency; and, as both of them are in the bride's fifth, which according to the rotation of the ſphere is her houſe of pleaſure and fecundity, they give deſignation of two perſons, with whom ſhe would have familiarity and criminal contact; which is further illuſtrated by their being in exact quintile to the Moon, her immediate ſignificator; which, being in no aſpect whatever with

Saturn, the ſignificator of her huſband, ſhews that they will ſeparate, and abandon each other, without any bodily union whatever.

The extraordinary circumſtances of the caſe induced me to give my opinion of the marriage very freely, in the company I was in, the ſame day it was, if I may ſo termed, conſummated. Much mirth, of courſe, reſulted from my obſervations; but very few believed the circumſtances I mentioned would ſo ſuddenly come to paſs; particularly that a ſeparation would prove the conſequence of a ſingle night's embrace: and that both parties would diſunite with ſo much indifference.

The facts quickly followed the prediction. The new-married pair were put to bed—*where love and joy ſhould take their fill:* but ſuch was the ſingularity of the caſe, that the bride roſe up with the Sun, and, having been refuſed that participation of fortune her friends had blazoned out, and finding no other allurement to ſupply that defect, ſhe immediately deſerted her huſband, who never took the pains to retrieve her; and ſhe has ſince attached herſelf to two other perſons, by both of whom ſhe has had children.

Whoever contemplates the horoſcope given in the annexed plate, will eaſily account of this otherwiſe extraordinary narration. They will likewiſe perceive that we have given a lively contraſt of a bad marriage, by an emblematical repreſentation of a good one, where heart and hand, and innocence and love, draw down the foſtering hand of heaven, with fruitfulneſs and joy. Intereſt and ambition ought ſurely never to guide the laws of love. The ſweet intercourſe of the ſexes, and the ecſtatic bending of ſoul and body in the bonds of matrimony, becomes a crime, when not directed by that heavenly flame. It is the attic fire of all-powerful love, which alone teaches us to be happy here, and leads to immortal happineſs hereafter; for,

Well-choſen love on earth can never die,
But with our nobler part aſcends the ſky.

TRAITS

TRAITS of Illuſtrious and Extraordinary CHARACTERS, deduced from their genethliacal Figures of Birth.

ALEXANDER the GREAT.——Born in Lat. 42°.

The perſon of this illuſtrious monarch is moſt aptly deſcribed by the reſpective ſignificators of his geniture, in the annexed plate. We find the lord of the aſcendant, and the two luminaries, are in Cancer; Virgo, and Taurus, all which are ſigns of brevity, and denote a low or mean ſtature; and, as Saturn, lord of the aſcendant, is poſited in a *pitted* degree of Taurus, it ſhews that he was wry-necked, conſtantly holding his head on one ſide. He was likewiſe haſty and choleric; which is deſcribed by the Moon in conjunction with Mars, a configuration that gave him at the ſame time an uncommon ſhare of courage, an intrepid ſpirit, and an unconquerable mind. Experience hath taught, that Venus adorns and enriches that part of the body which is governed by the ſign in which ſhe happens to be poſited at the hour of birth. In this nativity, Venus is in nineteen degrees forty minutes of Leo, which repreſents the back and heart; and in conjunction of Jupiter. Theſe circumſtances prove the native to have been endowed with a large, benevolent, and courageous, heart, all of which, in the courſe of his life and actions, were in a thouſand inſtances exemplified. Nor are theſe excellent endowments prefigured only by the benefic irradiations of Jupiter and Venus; they are further illuſtrated and ſtrengthened by the north node of the Moon falling in the aſcendant, while Saturn, the diſpoſitor thereof, is in trine to the Moon and Mars, and the Sun, in the exaltation of Jupiter, in trine of them all.

The time of this monarch's inauguration and inveſtiture of the kingdom is prefigured by the trine of the midheaven with Venus; at the ſame time that Venus is within orbs of a conjunction with Jupiter, who is lord of the tenth and eleventh houſes, which have deſignation of the crown, kingdom, and people. The direction of theſe aſpects came up in about twenty-one years from the native's birth, at which time his coronation took place; when he, in every ſenſe of the word, began to reign in the hearts of his people.

In this nativity, the Moon is certainly Hyleg, and is therefore to be directed for death. The Sun, Mars, and Mercury, are co-ſignificators of death; and hence it is that the learned Gadbury attributed his death to poiſon, which misfortune befel him when the Moon came to the quartile of Mercury in the eighth houſe. This prediction of the

native being poiſoned, is unqueſtionably confirmed by what is recorded of Olympias his mother; who having, ſix years after his death, diſcovered the fact, cauſed many ſuſpected perſons to be put to death, as acceſſaries in the murder.

NERO CÆSAR.——Born in Lat. 51°.

This native is uſually denominated Bloody Nero; and indeed, if we but caſt our eye upon the horoſcope of his birth, we ſhall find ample demonſtrations of a cruel and vindictive diſpoſition. Mars is oppoſed to Jupiter and Venus in the twelfth houſe, an aſpect of noxious and direful tendency. Jupiter, we find, is lord of the tenth, and conſequently ſignificator of the native's mother. Mercury is lord of the aſcendant, in exact quartile of the Moon, which is an obvious proof that the native ſhould cruelly treat and abuſe his mother; and, as Mercury is at the ſame time in ſextile of Mars, it is a probable argument that he would become a murderer. The quartile of the Sun and Saturn, is a configuration productive of every vicious inclination, and of every atrocious crime. Under the influence of this malignant direction, which held for a conſiderable length of time, he not only became hated by the people under his government, but exerciſed thoſe bloody and unparalleled cruelties that darken and diſgrace the annals of his reign.

In the black catalogue of his offences it is recorded, that he not only murdered his mother, but firſt committed inceſt upon her. He poiſoned his own brother; killed his ſiſter in law; and deſtroyed his wife Poppea, by kicking her to death when pregnant. He wantonly ſet fire to Rome, and exultingly made an entertainment in ſight of the flames, while the city was burning; and, being afterwards proclaimed by the Roman Senate an enemy to the ſtate, he, the monent he heard it, became his own executioner, and deſtroyed himſelf in the thirty-ſecond year of his age; the directions for which are the Moon to the conjunction of Mars, and Jupiter to the oppoſition of the Sun, who, in this nativity, was Hyleg, or giver of life. Thus the configurations preciſely deſcribe the quality of the man, and the directions ſhew the manner of his death, all which minutely came to paſs.

POPE SEXTUS V.——Born in Lat. 43°.

Latitude of the Planets.

♄	North Latitude	0	50
♃	South Latitude	0	11
♂	North Latitude	0	5
♀	South Latitude	2	25
☿	North Latitude	2	0
☽	South Latitude	4	46

This nativity diſplays a brilliant aſſemblage of benignant configurations, calculated to promote the moſt exalted honour and felicity. To prefigure the native's future greatneſs, here is a moſt remarkable conjunction of the Sun and Jupiter in the aſcendant; and, to prove that this ſplendor ſhall ariſe from eccleſiaſtical preferment, we perceive the lord of the ninth houſe in conjunction with the lord of the tenth, alſo in the aſcendant. That an extenſive flow of wealth and riches ſhall accompany this preferment, is evident from the poſition of the lord of the aſcendant in the ſecond houſe, ſtrong in dignity, and in trine aſpect of the Moon, which is in conjunction with the Part of Fortune. Theſe are univerſally allowed to be the ſtrongeſt arguments of future proſperity and grandeur to the native that can poſſibly ariſe from any irradiations of the ſtars whatever; and the reſult proved the certainty of the fact. At the age of ſixty-four he was elected Pope; at which time the medium cœli came to the body of the Sun, as may be ſeen by equating the direction; and is a moſt apt configuration for producing princely honour and ſovereignty. The Sun, in this nativity, is Apheta, and the Moon is Anareta; ſo that, when the Sun and Moon came into contact by anaretical rays, this illuſtrious native departed this life, which happened on the 24th of Auguſt, 1590, at which time the Sun came to the perfect quartile of the Moon, in ſixty-nine years from the day of birth, which was the exact age of the native.

PHILIP II. KING of SPAIN.——Born in Lat. 42°.

When this native was twenty-five years old, (which was in the year 1630,) he was in imminent danger of being burnt to death, but was miraculouſly preſerved. The directions at that time operating, were the aſcendant to the body of Saturn, and the Sun to the oppoſition of the midheaven; and conſequently to a conjunction with the fourth houſe, which hath deſignation of the houſe in which he dwelt. The Sun and Saturn being in fiery ſigns preſage his danger to ariſe by means of fire; and

and the oppoſing irradiations of the benefic ſtars deſcribe the manner in which he was preſerved.

In the year 1633, a conſpiracy was formed againſt the prince, and he was in the utmoſt danger of being ſtabbed. This is declared by the direction of Mars to an oppoſition with the aſcendant by direct direction, and prevented by the ſuperior force of the benefic rays.

In 1649, when the native was nearly forty-four years old, he was attacked by a ſharp and violent fever, and his life was deſpaired of. This indiſpoſition came by the configuration of the Moon, which is the apheta, or giver of life, directed to the quartile of Mars: but fatality was prevented by the nouriſhing beams of Jupiter directed at the ſame time to the aſcendant.

In the year 1656, a war broke out betwixt this prince and Oliver Cromwell, then Lord High Protector of England; an event which is moſt aptly foretold by the body of the Sun coming to the Bull's Eye, a violent fixed ſtar; at the ſame time that the Part of Fortune comes by direction to an oppoſition of the Sun in violent ſigns.

In the year 1659, King Philip made peace with France, and married his daughter to the French King. Theſe events are prefigured in his geniture, exemplified in the foregoing plate, by the aſcendant coming by direction to the ſextile of Mercury, lord of the ſeventh houſe; and the Moon to a perfect ſextile of the Sun.

In 1661, the aſcendant came to the body of Jupiter; and was ſucceeded by a revolutional ſextile of the Moon to her own radical place in the geniture; at the ſame time that Venus forms a mundane trine with the midheaven. Theſe directions promiſe much happineſs, honour, and reputation, to the native, and point out the happieſt and moſt illuſtrious part of his reign.

The Moon in this nativity being Giver of Life, and the Sun Anareta, foreſhews the time and manner of his death. Let the direction of their oppoſite beams be equated by the rules already given, and it will be found that the perfection of the aſpect in the anaretical place of the horoſcope agrees preciſely with the hour in which this illuſtrious prince yielded up the ghoſt.

HENRY VI. KING of ENGLAND.—Born in Lat. 51° 32′.

This prince ſucceeded to the crown of his anceſtors when he was but two months old, and was crowned King of England on the 6th of November, 1429; the midheaven being then directed to a trine aſpect of the Moon. At ten years of age he was crowned King of France in the city of Paris, under the influence of the aſcendant directed to the body of the Moon, which configuration participates of the ſame nature and quality with the former, and they both moſt aptly denote theſe illuſtrious events, when applied to the perſons of princes of the blood, or to heirs apparent to the throne.

At twenty-four years of age, the aſcendant is irradiated by the ſextile rays of Jupiter; under which direction he marries with the celebrated lady Margaret, daughter to the Duke of Anjou, a princeſs of maſculine reſolution and courage, which is repreſented by the fiery planet Mars, located in the ſeventh houſe, in his exaltation. This violent and intrepid ſpirit of Margaret was quite oppoſite to that of her conſort, who imbibed from nature a diſpoſition remarkably mild and meek, as is obviouſly preſaged by the paſſive qualities of the ſeveral ſignificators in his geniture, diſplayed in the foregoing plate.

In his thirty-ninth year, this native was taken captive by the Earl of March, and, by conſent of the people, ſtripped of his royalties, and ſent priſoner to the tower. This untoward event is preſaged by the Moon's quartile application, firſt to the midheaven, and then to a malefic quartile of Mars, both which directions came up preciſely at the time theſe circumſtances took place. After he had been twelve years a cloſe priſoner, namely, on the 21ſt of May, 1642, being then fifty years of age, he was inhumanly murdered by the hand of Richard, the bloody Duke of Glouceſter. Mars then came to the quartile of the Moon, which, in this nativity, was Giver of Life.

If we conſider the relative poſitions of the planets in this geniture, we ſhall not wonder that this prince was unfortunate in war, and unſucceſsful in all his enterprizes. The Moon in oppoſition to Mars, ſtrengthened by angular places, and Mars, ſignificator of public enemies, ſo powerfully located in his own houſe, at the ſame time that he is conſtituted the governing planet of the geniture, is an irrefragible argument that Fate and the Stars were combined againſt this unfortunate prince. The cauſe and manner of his captivity are clearly pointed out by Venus, lady of the aſcendant, in quartile with Saturn; and by

Jupiter, lord of the twelfth houſe, the houſe of impriſonment, in quartile with the aſcendant; whereby is ſhewn the ſuperiority and ſucceſs of his enemies over him. The Moon's oppoſition to Mars, from fixed ſigns, and near the Pleiades, denotes the violent and untimely death which this native ſuffered; but who inherited ſo mild and paſſive a temper, that, when ſtruck by a common ruſtic, he gently replied, "Forſooth you wrong yourſelf more than you do me, by ſtriking the Lord's anointed!"

HENRY VIII. KING of ENGLAND.—Born in Lat. 51° 34'.

The lofty ſpirit and arbitrary will of this prince are demonſtrably proved by the poſition of the luminaries in cardinal ſigns, as diſplayed in the annexed plate. His temperature and inclinations are aſcertained by the configurations of Mercury in trine of the Moon, and in ſextile to Venus; at the ſame time that he beholds the aſcendant with a ſextile ray, and forms concordant familiarities with the other ſignificators. This not only beſpeaks a winning and complacent deportment, but manifeſts a luxuriancy in the gifts of nature, not commonly beſtowed upon the maſculine conformation. Here are however ſtrong marks of obſtinate reſentment, and obdurate revenge, even againſt offending females; whom it was not in his nature to forgive, when once ſeriouſly incenſed againſt them, as the houſes and ſigns teſtify, wherein Venus and Mercury are located.

The aſtrological cauſe of this native's deſire after many women is deduced from the ſextile irradiations of Venus and the Moon with Mercury, the Moon being at the ſame time dignified in the ſeventh houſe, And the reaſon of his continual diſagreements and contentions with them, is becauſe Jupiter, lord of the ſeventh, is in quartile with Mars and the aſcendant, which ſtir up the choleric humour, unallayed by laſciviouſneſs and luſt. The ſeverity of his treatment to them, is depicted by the luminaries being in quartile to each other; the Moon in the weſt angle, in the houſe of Mars, while Venus, the ſignificatrix of his concubines, is in conjunction with the Dragon's Tail.

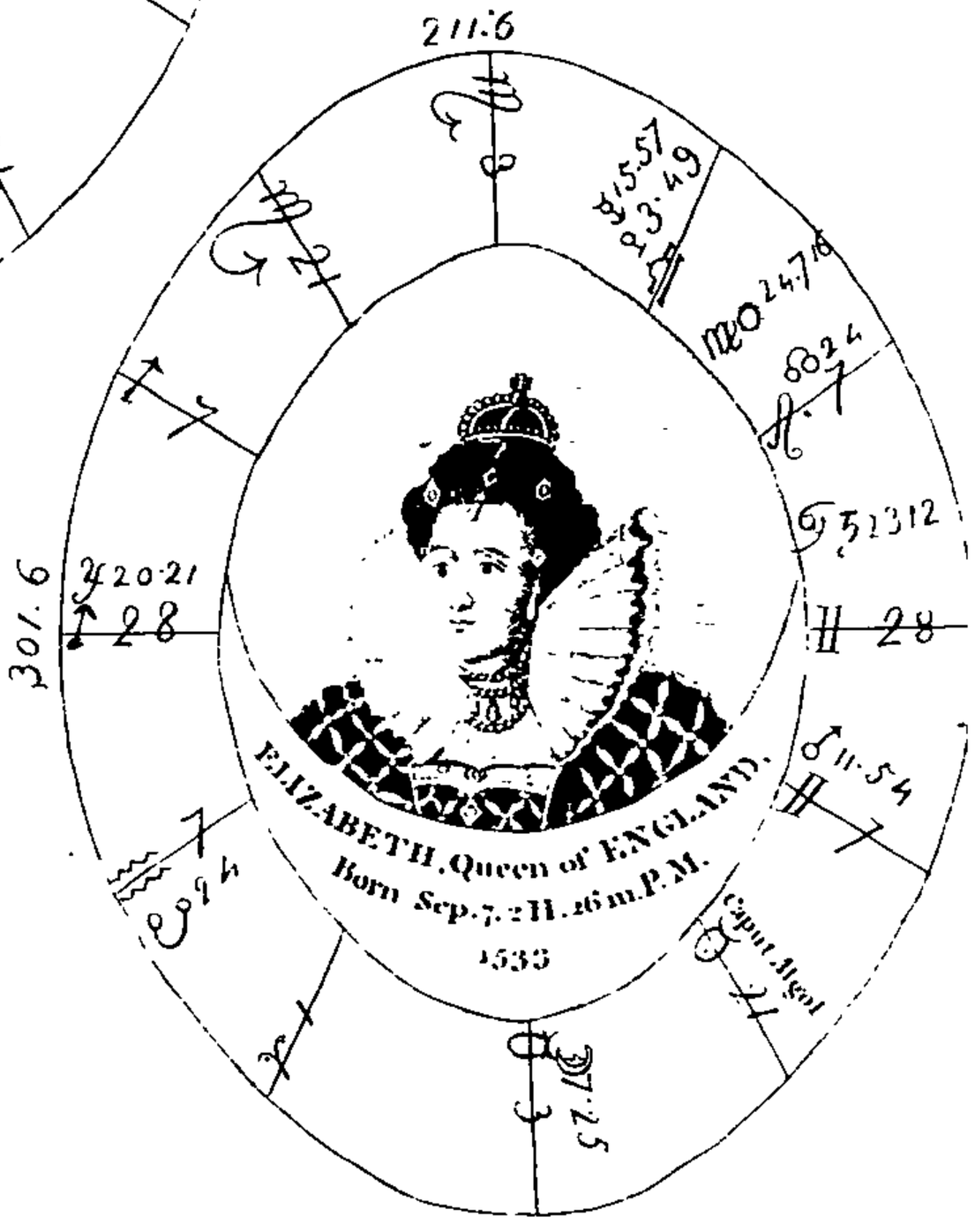
The circumſtance of this potentate changing his religion, and encouraging the reformation of Luther and Calvin, is moſt admirably deſcribed by the quadrate aſpect of Jupiter and Mars, with the Dragon's Tail in his ninth houſe. I ſhall not go into a detail of this remarkable event, nor conſider it aſtrally in all its parts; my purpoſe here being only to mark out the extraordinary incidents of theſe great mens' lives, and


HENRY VIII. King of ENGLAND.
Born June 28.10 H.40 m.A.M.
1491


EDWARD VI. King of ENGLAND.
Born Oct.12.13 H.51 m.P.M.
1537.


MARY I. Queen of ENGLAND.
Born Feb.17.17 H.56 m.P.M.
1516.


EARL of ESSEX.
Born Nov.11.9 H.30 m.P.M.
1566.


ELIZABETH, Queen of ENGLAND.
Born Sep.7.2 H.26 m.P.M.
1533

and to ſhew the directions under which they happened, that the young ſtudent, or inquiſitive reader, might apply them as examples, and profit by the reſult.

This Prince reigned over Great Britain thirty-nine years, and died on the 28th of January, 1547, in the fifty-ſixth year of his age. In this geniture the Sun is Hyleg, or Giver of Life, which, being directed to the Anareta, will be found to correſpond exactly to the time of his diſſolution.

EDWARD VI. KING of ENGLAND.—Born in Lat. 51° 32'.

♄	North Latitude	1	50
♂	North Latitude	1	30
♀	North Latitude	0	4
☽	South Latitude	4	17

It is remarkable of this native that he was extracted by manual operation from his mother's womb, and his life preſerved. At ten years of age he ſucceeded to the crown of Great Britain, namely, on the 28th of January, 1547; at which time the aſcendant of his nativity came by direction to the conjunctive aſpect of the planet Venus, lady of the tenth houſe or medium-cœli, which is the houſe of dignity, honour, and ſupreme power.

This prince reigned only ſix years and five months, and expired when he was little more than ſixteen years old. The aſcendant, in this geniture, muſt be taken for Hyleg, or Giver of Life, becauſe neither the Sun, Moon, nor Part of Fortune, are in aphetical places. Saturn is the Anareta, or Deſtroyer of Life; and conſequently, when Saturn came by direction to the aſcendant, the native expired.

To prove this to be a fatal direction, we find there were operating at the ſame time, the Sun to the quartile of Mars and the Moon to the oppoſition of the ſame malefic planet; ſo that both the luminaries were afflicted, when Saturn traverſed the aſcendant, and gave freſh vigour to the hand of death. Hence it is apparent, that this native was not deſigned by nature either for a long or an happy life.

MARY,

MARY, QUEEN of ENGLAND.—Born in Lat. 51° 34′.

In this geniture we find Saturn lord of the aſcendant, out of all his own dignities, but in the dignities of Jupiter, and in a fiery ſign. Jupiter we find is the diſpoſitor of Saturn; but is poſited in a fiery ſign likewiſe. Theſe are infallible arguments of an oppreſſive and rigorous government. The Moon, being in oppoſition to Jupiter from angles, hath deſignation of grievous diſſentions about religion. The quartile configurations of the Sun with Mars, and Mars with Mercury, in the dignities of Jupiter, in bicorporal ſigns, near Aldebaron, ſhew the diſhonourable and bloody reign of this princeſs, and the perſecution of her ſubjects in matters of conſcience and religion. Venus, being lady of the third houſe, repreſents her ſiſter; and, being poſited in the twelfth, moſt aptly declares her ſiſter's impriſonment; and the more ſo, as Saturn is not only lord of the aſcendant, but lord likewiſe of the twelfth, the houſe of impriſonment and affliction.

When the aſcendant came to the ſextile of the Sun, ſhe ſucceeded to the crown of Great Britain, namely, in the year 1553, being then near thirty-ſeven years of age. In the year 1554, ſhe was ſuddenly married to Philip King of Spain, under the direction of the Sun to the trine of Venus.

This native died in the forty-ſecond year of her age, after ſhe had reigned about five years and a half. The time and manner of her death are pointed out by the Sun, which is Giver of Life, directed to the quartile of the Moon, in quartile to Saturn, lord of the aſcendant; and on the day ſhe died the Moon came to the oppoſition of Mars. Theſe directions are all of a violent nature, and whoever equates them by the Sun's motion will find them correſpond exactly to the time and manner of her death.

ELIZABETH, QUEEN of ENGLAND.—Born in Lat. 51° 32′.

Upon the aſcendant we find the regal ſign Sagittarius, with Jupiter, its lord, located therein; which declares the native to inherit a moſt maſculine and intrepid ſpirit, a poignant wit, and undaunted reſolution; qualities which are greatly heightened by the degree aſcending being in the dignities of the planet Mars.

In

In the twenty-firſt year of her age, ſhe was oppreſſed and impriſoned, and ſuffered every ſpecies of perſecution that could reſult from the vindictive jealouſy and reſentment of her enemies. During theſe troubles, ſhe had operating a moſt malefic direction of Saturn to the quartile of the Sun, in the ninth houſe, which exactly deſcribes the cauſe for which ſhe was perſecuted, namely, her hereditary right to the crown, and her attachment to the proteſtant religion.

When this illuſtrious princeſs attained her twenty-fifth year, ſhe triumphed over her domeſtic enemies, and was crowned Queen of England. At this time the aſcendant was directed to a trine aſpect of the Sun, who is the patron of honour and ſovereignty.

In the ſixty-ninth year of her age, this celebrated princeſs made her exit, under the mortal direction of the aſcendant to the quartile aſpect of the Sun; leaving poſterity to record the bleſſings of her reign, in which were laid the ſolid foundations of the proteſtant eſtabliſhment.

Should the young ſtudent take the pains to ſet a revolutional figure for the year of the native's death, he will find there was a conjunction of the two infortunes in the oppoſite place of the Moon in her radical nativity; and the figure itſelf nearly in quartile to that of her birth. The lord of the aſcendant was in the eighth, and the Sun was falling in the ſixth houſe; and on the day of her death, viz. the 24th of March, 1602, the Sun and Mars were both in the place of the direction, and the Moon in quartile of them both, as if nature herſelf ſympathiſed with her ſubjects in the loſs their ſovereign.

The EARL of ESSEX.—Born in Lat. 52°.

♄	North Latitude	1	0
♃	North Latitude	1	0
♀	North Latitude	1	0
☿	North Latitude	1	0
☽	North Latitude	1	0

It was not until the twenty-eighth year of his age that any thing remarkable occurred to diſtinguiſh the character of this celebrated nobleman. About that time he had a very eminent and powerful direction operating, of both the luminaries to a ſextile configuration of Jupiter, under which he became powerful and elevated at court, and acquired the eſteem and confidence of the queen, in a moſt *unlimited* degree, as the ſeveral ſignificators very aptly teſtify.

At thirty-two years of age he was deputed, as the principal in commiſſion, to ſeize the Spaniſh fleet; and ſoon after he was created earl marſhal by the queen. This latter honour begat him abundance of enemies, and created great jealouſies and ſuſpicions among the nobles, and particularly among thoſe who were inveſted with the ſeveral dignities and offices of ſtate. At this time the native had the luminaries directed to the ſextile of Venus; and, to ſhew the envy and malevolence of his enemies, he had the midheaven directed to the oppoſition of the Sun.

In the thirty-third year of his age this native was appointed to Ireland, viz. on the 27th of March, 1599. The Dragon's Tail was then on the aſcendant; and, the day he ſet off, the Sun and Saturn were in oppoſition from the tenth and fourth houſes; and, what was worſe, the medium-cœli came by direction to an oppoſition with the Moon. It is hence evident that he would not proſper; and the event proved the fact; for, on the 28th of September following, he returned to the Cout of London, the Sun being then in the place of Saturn at the time of his ſetting out.

On the 2d of October, 1399, he was committed to the Tower; and in June following he was ſuſpended from all his employments and offices in the ſtate. On the 19th of February, 1600, he was arraigned tried, and condemned, and on the 25th of the ſame month, being Aſh-Wedneſday, at eight o'clock in the morning, he was beheaded; at which time the midheaven came to a malefic oppoſition with Mars.

The arguments of a violent or premature death, in this nativity, are many. The two luminaries in conjunction with Mars, in aſpect with a violent fixed ſtar; the Sun and Moon, and lord of the eighth houſe, in violent ſigns, and Mars in Sagittarius afflicting the luminaries, are ſo many arguments, in any geniture, of an ignominious and untimely end; and, in the nativities of perſons of quality and diſtinction, they are always conſidered as emblems of the loſs of life, honour, and reputation.

At the moment of this unfortunate nobleman's death, the radical place of the Dragon's Tail aſcended; the Sun and Mars were in oppoſition to the aſcendant of the revolutional figure, and Saturn was in exact oppoſition to the Dragon's Tail, all which circumſtances declare his life to have been taken away by violence and treachery, to ſatiate private reſentment, and to appeaſe the clamours of thoſe who were too powerful to be oppoſed, and too ſanguinary to riſe in the political hemiſphere but at the price of blood of thoſe by whom they were eclipſed.

JAMES

JAMES I. King of GREAT BRITAIN
Born June 18 21h 20m PM
1566

CHARLES I. King of ENGLAND
Born Nov.r 19. 10H 20m 35sec PM
1600

OLIVER CROMWELL
Born April 24 4.15H 6m PM
1599

CHARLES II. King of GREAT BRITAIN
Born May 29. 10H 21m LM.
1630

JAMES II. King of GREAT BRITAIN
Born Oct.r 14 11H 30m PM
1633

JAMES I. KING of ENGLAND,——Born in Lat. 56°.

This geniture is remarkable for giving a great number of teſtimonies to the honour, dignity, and pre-eminence, of the native. The Sun being in exact ſextile to the aſcendant from the tenth houſe; the Moon in partile ſextile of Jupiter; Jupiter in conjunction with the Part of Fortune in the ſecond houſe; Venus, lady of the tenth located therein, having familiarity with many eminent fixed ſtars, in trine to the ſecond houſe; the two luminaries in perfect reception of each other; and the lord of the aſcendant in the tenth houſe in conjunction with the Sun, and in ſextile to the aſcendant, are teſtimonies of dignity, honour, magnificence, and ſupreme power, rarely to be found in one and the ſame geniture; but which were in the moſt remarkable manner verified in the perſon of this illuſtrious prince.

But notwithſtanding theſe extraordinary arguments of ſpendour and ſovereignty, deduced from the influx of the ſtars, yet we ſhall on the other hand find, that this celebrated monarch was not without his ſhare of anxiety and trouble; as the annals of the Britiſh page abundantly prove. In the aſtral ſcience theſe perplexities are preſaged by the familiarity of Venus with the Dragon's Tail, in perfect quartile of Saturn and Mars; which ſufficiently accounts for every evil that befel him. Added to which, we muſt not forget to remark the diſcordant rays of the Sun and Mercury, in quartile to Jupiter, lord of the ſeventh houſe, and in cardinal ſigns, whereby the enmities and conſpiracies againſt him are moſt accurately foreſeen.

The coronation of this prince took place in London, when he was thirty-ſeven years of age; at which time the Sun came to the zodiacal parallel of Venus, lady of the tenth houſe, which hath deſignation of fame, honour, magnificence, and preferment.

The memorable powder plot (memorable only for its diabolical malignity) happened, under the moſt noxious quartile aſpect of the *leſſer* malefic tendency of which miſchievous direction was removed by the infortune Mars, in the thirty-ninth year of the native's age; the ſuperior rays of the benevolent Jupiter.

In this nativity the Sun is Hyleg; and we find Mars, Venus, and Saturn, all of them operating in the anaretical place of the geniture. Hence it is obvious, that, when the Sun came to the conjunction of Mars,

jointly

jointly with the quartile of Venus and conjunction of Saturn, the native would ſuffer a violent death; which really took place, when theſe directions came up, in the ſixtieth year of his age. The conſtitution of Venus with the Dragon's Tail, irradiated both by Saturn and Mars, in the anaretic place, ſhews the native's death to have been occaſioned by poiſon; for the immortal Ptolomy ſaith, that, whenever Venus is joined with the malefics, in familiarity with the Dragon's Tail, in directions to the hylegiacal or anaretical parts of the horoſcope, it portends death by poiſon—and ſo it really happened in the preſent inſtance.

CHARLES I. KING of ENGLAND.—Born in Lat. 56°.

This unfortunate monarch was crowned king of this empire in the twenty-fifth year of his age; and was ſoon after married to the daughter of Henry IV. of France. The medium-cœli was then directed to the triangular rays of the Moon, in the houſe of dignity.

In the twenty ninth year of his geniture he had the medium-cœli directed to the oppoſition of the Sun, under which influence he diſſolved his parliament. The Scotch enthuſiaſtic phrenzy took place in his thirty-eighth year, under the direction of Saturn to a conjunction of the Moon. In 1641, being the forty-firſt year of his age, he ſummoned a new parliament, in which the famous contention about the militia took place. It likewiſe fermented religious jealouſies, and laid the foundation of ſerious machinations againſt the king's life; all which misfortunes are preſigured by, and happened under, the influence of the aſcendant directed to the quartile of Venus, lady of the tenth houſe; and of the medium-cœli directed to the quartile rays of Jupiter.

It was in the forty-ſixth year of his geniture, that this monarch placed his life in the hands of the Scotch army, expecting from them that ſafety and protection they had proffered to give. But, when they had effected their bargain with the parliament, they baſely ſurrendered him up, in violation of all the ties of honour, humanity, and benevolence. This tranſaction took place under the malevolent influence of Saturn tranſiting the midheaven, a configuration in the world known to be the forerunner of ingratitude, treachery, and deceit.

In his forty-eighth year, this unhappy monarch was beheaded, in the front of his own palace, Whitehall. This memorable event was effected under the direction of the Part of Fortune to the quartile of the Moon,

Moon, and the zodiacal parallel of Saturn to the mundane parallel of Mars; and might ſerve as an uſeful monitor to ſucceeding princes, not to trifle with the remonſtrances of a free people; nor to hold in defiance that genuine flame of heaven-born patriotiſm, which, when once ſeriouſly kindled through an empire, carries all before it, and breaks down every barrier of protection, even to the ſacred perſon of the Lord's anointed.

OLIVER CROMWELL, Lord High Protector of ENGLAND.

Born in Lat. 52°. 19′.

In the nativity of this enterpriſing and extraordinary character, we find ſix planets eſſentially fortified, and four of them in friendly trine to each other, with the luminaries and Jupiter in ſextile. Theſe configurations preſage the moſt important acquiſitions to the perſon of the native; at the ſame time that they illuſtrate the intrepidity and valour of his ſpirit, with the capaciouſneſs and ſagacity of his mind. The profeſſors of this art both ancient and modern agree, that, where only three planets are found eſſentially dignified in a nativity, it is an earneſt of ſingular proſperity and good fortune to the native; but, where ſix teſtimonies of the ſame nature occur, it is an evident proof that the perſon born under their influence will eclipſe all his cotemporaries in his advancement to glory and fame. How far this was verified in the perſon of Oliver Cromwell, when the humble ſituation of himſelf and his anceſtors is conſidered, I ſhall leave to the deciſion of the candid and intelligent reader.

In the year 1640, this native was elevated to a ſeat in the Britiſh parliament. This was his firſt ſtep to public fame and honour, and happened under the occourſe of the medium-cœli to the Dragon's Head, ſeconded by a favourable revolution, in which Jupiter occupied the cuſp of the tenth houſe.

In the year 1642, Cromwell was appointed to the command of a regiment of horſe; and he raiſed one troop at his own expence. The Moon was then directed to the Scorpion's Heart, an eminently martial and jovial fixed ſtar. In 1643, he was elected Lieutenant General to the Earl of Mancheſter, under the direction of the Moon to the trine aſpect of Mars.

The memorable diſpute between Cromwell and the Earl of Mancheſter took place in the year 1644, with uncommon acrimony on

both ſides. The Earl conceiving himſelf the better man, and ſuppoſing his intereſt in parliament to be much ſuperior, he preferred divers informations againſt his Lieutenant General, but to little or no effect. The native quickly exculpated himſelf, and triumphed over his accuſer. During the whole of this year, Saturn occupied the aſcendant of his revolutional figure; and in his radix, or figure of birth, the aſcendant was at the ſame time directed to the term of Mars.

In 1645, the native was appointed Lieutenant General under Sir Thomas Fairfax; and now his fame began to ſpread abroad. The Moon was then directed to the ſextile aſpect of Saturn, lord of the medium-cœli; and under this direction he eventually took the lead of Fairfax himſelf.

In the year 1648, he remonſtrates with the parliament, and contends with the levellers, by which he fell into diſgrace. Under the influx of the ſame directions, he formed the plan of bringing his ſovereign's head to the block. Theſe malignant beams proceeded from the quartile aſpect of the Sun and Saturn, accompanied by the Part of Fortune to the oppoſition of Venus.

In 1649, Cromwell attended the army in the expedition againſt Ireland. He ſucceeded in the undertaking, but was ſeverely indiſpoſed with a flux and fever. This all happened under the ſucculent beams of the Moon, directed to the parallel of Jupiter in the zodiac. The years 1650, and 1651, were employed in ſubduing the oppoſition in Scotland. Wherever the native turned his arms, he came off victorious. This was the Sun directed to his own ſextile, and the fortunate irradiations of the principal ſignificators in the revolutional figures of thoſe two years, to their radical places in the geniture, whereby all things appertaining to the native proſpered well, and terminated generally to his own particular intereſt and advantage.

The memorable æra of his aſſuming the power of Lord Protector of England, was 1653, when he boldly poſſeſſed himſelf of the avenues leading to the Houſe of Commons, and put an end to the ſittings of parliament. Eying the Speaker's mace, he ordered his attendants to take away "*that idolatrous bauble*;" though he afterwards thought it no vanity to have three ſuch borne before him. Theſe events took place when the Sun came to the bodily aſpect of Jupiter, and to the ſextile of the Moon, at the ſame time that the Part of Fortune received

the

the ſextile beams of Venus; ſo that both the benefic planets concurred in the ſucceſs of this daring enterprize*.

In the year 1654, Cromwell effected an honourable peace with France, through the medium of Cardinal Mazarin; and he concluded a treaty of alliance with the King of Sweden, through the indefatigable perſeverance of Mr. Whitlock. This gentleman was rewarded for his merit, by being dignified with a title, and appointed ambaſſador to the Swediſh court. Theſe incidents occurred under the influx of the Part of Fortune directed to the trine of Mars.

The craft and ſubtlety of the native was never more conſpicuous, than when he convened a new parliament, for the purpoſe of getting himſelf confirmed in the ſovereignty of the empire, under the aſſumed title of Lord High Protector. This took place in the year 1656, when the Part of Fortune came to the ſextile rays of the inſidious planet Saturn, lord of the tenth houſe, joined with a favourable revolution; whereby is moſt aptly preſaged, the attainment of advantage and preferment, under the hypocritical maſk of piety and religion. To ſuch a pitch of adulation were ſome of his creatures ariſen, that they not only confirmed him in the title of Lord High Protector, but entreated him to aſſume the name and dignity of King. This, however, he had the ſagacity to refuſe; deeming it ſafer to poſſeſs the power, without the pomp, of Majeſty.

In the year 1657, when thus inveſted with the ſupreme juriſdiction of the kingdom, he ſends ſix thouſand men upon an expedition into Flanders, under the command of Sir John Reynolds. This valiant knight had likewiſe conſulted Mr. Lilly before his embarkation, and he ſhortly afterwards reduced and took poſſeſſion of Dunkirk, as that proficient in the aſtral ſcience had previouſly aſſured him would be the caſe. The Sun was then forming a perfect ſextile of the planet Mercury in cardinal ſigns, applying to Mars.

In the year 1658, on the third of September, 3h. 15m. P. M. this phenomenon amongſt mankind departed this life, in the natural way, without aſſaſſination—which is perhaps the greateſt wonder of the age

* It is a circumſtance worthy of remark, that, before Cromwell put this daring ſcheme into execution, he ſent for the celebrated Mr. Lilly, (who at that time of day was ſingularly eminent for his knowledge in this ſcience,) and conſulted him upon the occaſion. Mr. Lilly only requeſted to be put in poſſeſſion of the hour of his nativity, and he would ſoon inform him of the probability of the event. This was complied with; the directions above ſpecified were equated and conſidered, and the conſequences exactly foretold. Cromwell is therefore ſuppoſed to have entered with more confidence into the Houſe of Commons, and to have conducted his exterior with greater courage and dignity.

in which he lived; and can only be attributed to the fear—not to the love—of thoſe who had acceſs to him. In the directions which produced his death, the Sun is the Apheta, or giver of life, and Saturn the Anareta, or deſtroying planet; and the incidence of their beams met by quartile rays, preciſely at the time this illuſtrious native gave up the ghoſt, as any one might perceive, by equating the arch of direction.

Thus terminated the life and actions of a man, who perhaps never had his equal—whoſe reſcources were within himſelf; and whoſe progreſs through life was marked with ſtrong portions of temerity and hypocriſy—of perſeverance and good fortune. He attempted nothing but what he accompliſhed; and ſurmounted difficulties, which would have plunged half the univerſe into ruin and deſpair.

CHARLES II. KING of ENGLAND.
Born in Lat. 51°. 32′.

It muſt be pretty obvious to the reader, that the utmoſt of my deſign, in giving theſe nativities, is merely to ſhew the principal incidents of each native's life, and diſtinctly to point out the configurations or occurſions of the planets, under which they happened; that, by comparing to one with the other, in every age, occupation, or diſtinction, of human life, we might be convinced, by the uniformity of facts, and the evidence of our own ſenſes, that the one is, in a limited degree, ſubſervient to the other; and that the motion of the heavenly bodies, variegated and qualified by a coincidence of their beams, is the real medium by which the affairs of this world are influenced and directed; and whereby the attentive reader, from obſervation alone, might be enabled to predict the principal occurrences of any man's life, from a bare inſpection of his nativity.

According to this ſpeculation, we find the Moon in earthy ſigns, applying to the terms of Mars, near the place of the Pleiades, at the time this prince was nine years old. The natural inference to be drawn from this aſpect is, a broken limb, a violent bruiſe, or ſome accidental affliction; accordingly we find the native, when this direction came up, had the misfortune to break his arm.

Again, at ten years of age, he was afflicted with the jaundice, and ſuffered greatly by a fever. Theſe are the diſeaſes of Mars; and the Sun, being Giver of Life, and paſſing the terms of Mars to a configuration

tion with violent fixed ſtars of the ſame nature, evidently produced them. The violence and duration of theſe diſorders, are pointed out by the oppoſition of Mars to the Sun's radical place in the geniture, in quartile to the aſcendant, with the Sun and Saturn conjoined in the ſixth houſe.

The aſcendant came to an oppoſition of Jupiter when this prince was afflicted with the meaſles, which happened when he was about twelve years old. Soon after this he left London with his royal father, and was plunged into a labyrinth of ſorrows and diſtreſſes. Theſe are pointed out in a moſt aſtoniſhingly correct and uniform manner, by a chain of malefic configurations in his revolutional figure of that year. The moſt remarkable aſpects are, a quartile of the Sun and Jupiter; a conjunction of Saturn and Mars; a quartile of the Sun and Saturn; a quartile of Saturn and Mercury; a quartile of Mars and Mercury; a quartile of Saturn and Venus; and a quartile of Mars and Venus; all in progreſſive order, accompanied with ſeveral unpropitious and moſt alarming tranſits.

In the year 1646, this prince left his native country, and went for ſafety to France, where he fell ſick with a ſcarlet fever, and his life was deſpaired of. At that time the Sun, Giver of Life, was directed to the terms of Mars, and to the ſtars of Hercules, and Saturn paſſed the Moon's place in the radical figure of birth. But Jupiter tranſiting the Moon and Venus, and to the aſcendant, not only gave him a moſt friendly and cordial reception at the court of France; but prevented the fatality threatened by the evil rays of Mars and Saturn.

In the twentieth year of his age, he was crowned King of Scotland. This was under the influx of the mid-heaven to the trine of Jupiter. In his twenty-firſt year, namely, in the year 1651, he entered England with a conſiderable army; but was quickly attacked and defeated by Oliver Cromwell, then Lord Protector of England. At this time the aſcendant came to the quartile aſpect of the Sun; Saturn tranſited the eleventh houſe; and Jupiter formed a quartile with the aſcendant in his own radical place in the figure of birth.

It is very remarkable, that on the preciſe day the battle of Worceſter was fought, which ended ſo diſgracefully to the native, the Sun came in quartile with his radical place in the geniture; Jupiter formed a quartile with the aſcendant; Mars was in oppoſition to the Moon and mid-heaven, and the Moon in quartile both of Mars and Venus. Under

ſuch inauſpicious ſtars, what leſs could be expected than an inglorious defeat, and a cowardly defalcation on the part of his troops?

In the year 1657, the King of Spain aſſiſted the native with money to the amount of one hundred thouſand pounds. The direction then operating exactly points out the circumſtance, which was the Sun to the trine of Jupiter. In the year 1685, the native died. The direction which produced his death, was Saturn, the Anareta, to the oppoſition of the Sun, the Giver of Life.

If we compare the geniture of this illuſtrious prince with that of the king his father, we ſhall find the aſcendant of that nativity to be the place of Mars in this. Secondly, the Dragon's Tail, in the geniture of this native, is upon the place of the Sun in the other. Thirdly, the Sun in the geniture of the father, is in oppoſition to himſelf in the geniture of the ſon. Fourthly, the Sun in this nativity is in quartile to the place of Jupiter in the other; arguments, which ſerve abundantly to ſhew, that the father and the ſon ſhould both be involved in one and the ſame unfortunate quarrel; that the father ſhould fall a victim to its rancour, whilſt the ſon ſhould riſe ſuperior to the enemies of them both, and be reinſtated in the hereditary rights of the crown, and in the hearts of his people; which, I believe, was at laſt pretty nearly the caſe.

JAMES II. KING of ENGLAND.
Born in Lat. 51°. 32'.

The firſt accident we meet with in this geniture, befel the native in his infancy, when he was only a year and a half old, which was an impoſthume in his head, and continued, after it broke, for five years, before a perfect cure could be formed. This happened under the direction of the Moon to the quartile aſpect of the Sun; which, being in fixed ſigns, declares the obſtinacy and continuance of the diſorder.

In the year 1646, the native was afflicted with a ſevere ague, which reduced him in a manner ſingularly rapid and alarming. The cauſe of this illneſs I find in a revolutional horoſcope of that year, where a malefic oppoſition of the Sun and Saturn, in quartile to the Moon's radical place, produces aguiſh affections, accompanied with a violent fever. The ponderoſity of Saturn declares the tranſit ſhould be accompanied with dangerous ſymptoms. Again, the aſcendant came to the body

body of Mars in the year 1650, and the Moon to a quartile with the Part of Fortune, which influx likewiſe produced a violent fever, and a remarkable laſſitude of the whole human frame. The native was then in his ſeventeenth year.

In 1653, this prince headed a wing of the army in Flanders, and received a dangerous wound. It was in its nature not mortal; but, being accompanied with a violent fever, the dangerous ſymptoms were encreaſed, and the native's life in conſequence deſpaired of. This was produced by the beams of the Sun, when lord of the aſcendant, directed to the hoſtile rays of a perfect quartile of Mars. Another fever was produced by the Moon directed to the body of Mars, and the Sun to the body of Saturn, which attacked the native in the year 1667, when no perſon expected he would have ſurvived. Theſe configurations ſerve to ſhew, that, from the radical conſtitution of the ſeveral ſignificators in the figure of birth, the native was more liable to fevers than to any other complaint. From the ſame ſource of information we likewiſe diſcover, that this prince was ſubject to weak eyes and imperfect ſight. This is declared by the quartile poſition of the two luminaries to each other; the one being placed near nebulous ſtars, and the other in familiar congreſs with ſtars of a violent nature.

Anno Domini 1685, this prince ſucceeded to the crown of Great Britain. This is predicted by the planet Jupiter, to a favourable conjunction of Mars, in the medium-cœii, or tenth houſe, the houſe of honour, glory, and preferment. But here the influx of Mars, who is the leſſer infortune, moſt aptly points out to us, that, though he is brought by the *primum mobile* to a coincidence with the benefic beams of the princely ſtar Jupiter, and bears teſtimony to his coronation, yet the conſequences would ſavour very much of the evils wherein this malefic planet is obſerved to delight.

So many croſs and unpropitious directions as we find in this nativity are at firſt ſight ſufficient to convince us, that the unhappy native would drink deep of the bitter cup of diſappointment and affliction. To juſtify the remark, requires only to advert to the private and public anecdotes of this prince, who, though he lived to the age of ſixty-ſeven years, enjoyed but a very moderate ſhare of health, and ſtill leſs of happineſs.

GEORGE,

GEORGE, DUKE of ALBEMARLE.—Born in Lat. 51♀.

♄	North Latitude	0	17
♃	North Latitude	1	50
♂	South Latitude	0	49
♀	South Latitude	0	59
☿	South Latitude	1	20
☽	South Latitude	4	53

This nativity is worthy the minuteſt attention of every reader, for the ſingularity of its noble and illuſtrious configurations; and whereby a good and proſperous geniture might be readily diſtinguiſhed from thoſe of an unfortunate and adverſe deſignation.

The firſt direction material for us to examine in the above geniture, is the aſcendant to the quartile rays of Saturn, poſited in Aries, the greateſt dignities of Mars. Under this malefic influx, the native was taken with the ſmall pox, and very narrowly eſcaped with his life, which we ſee protected by the ſuperior ſtrength of the benevolent Jupiter in the aſcendant, and the vivifying rays of the Sun unafflicted in the tenth houſe.

In the twenty-firſt year of his age, he was appointed to an arduous employment in the Low Countries; in the execution of which he encreaſed in reputation, honour, and fame. The Moon was then directed to the eminent ſtar Oculus Tauri; which hath the moſt natural deſignation of this fortunate occurrence. In his thirty-firſt year, he was made a Captain in the Horſe Guards. He had then in his nativity the aſcendant directed to the trine aſpect of Venus, in the ſign Taurus, her chief dignity and exaltation, whereby theſe two eminent promotions are found to correſpond, and to be the reſult of each other. When the native was thirty-two years old, he was honoured with the command of a regiment. To denote this preferment, he had the mid-heaven directed to the ſextile aſpect of Mars; and this in Capricorn, his exaltation; a very great argument of ſucceſs in martial honours and atchievements.

At thirty-five years of age, this native was unfortunately worſted in an engagement, and taken priſoner. The Sun was then directed to a conjunction of Saturn; and the Moon had nearly formed a quartile aſpect with Mars. The firſt direction fell in the twelfth houſe; and Saturn, the promittor, was then lord of the twelfth.

But

GEORGE Duke of ALBEMARLE.
Born Dec.r 6 nH.5m.AM
1608.

JAMES Duke HAMILTON.
Born June 19. nH.15m.EM
1606.

THOMAS Earl of STRAFFORD.
Born April 3 2H.22m.P.M.
1593.

GEORGE Duke of BUCKINGHAM.
Born Aug.t 28 1H.22m.P.M.
1592.

WILLIAM LAUD ArchB.p of CANTERBURY.
Born Oct.r 6.6H.58m.P.M.
1573.

But in the fifty-ſecond year of his age, namely, in May, 1660, he reſtored Charles the Second to his crown and dignity, after he had been twelve years in exile; and re-eſtabliſhed peace and tranquillity to the three kingdoms, England, Ireland, and Scotland. He had then the Moon directed to the ſextile rays of Jupiter; and Jupiter being lord of the tenth houſe of his nativity, made that action more eminent and honourable. This was not a little augmented, by the Part of Fortune being alſo directed to the trine of Jupiter; and, to ſhew the oppoſition and ſtruggles he ſhould meet with in the accompliſhment of that glorious undertaking, he had the aſcendant directed to the contra-antiſcion of Mercury, lord of the ſeventh houſe, and the ſignificator of open enemies.

That this native was born for great and illuſtrious undertakings, admits of no doubt. We find the Sun poſited in the tenth houſe; in a noble fiery ſign, and in trine aſpect of the Moon, in a ſign of the ſame triplicity. Jupiter is likewiſe poſited in the aſcendant, in trine of Venus and Mercury in the eleventh. Mars, being alſo upon the aſcendant, gives him intrepidity and courage; and in ſextile of the planet Saturn, added deliberation to his enterprizes, and formed him not only for the ſoldier, but for the ſtateſman and patriot. He hath the Moon likewiſe in the very degree of the Sun's exaltation, upon the aſcendant of England, in the ſign Aries, which diſpoſed him to ſuch great and glorious enterprizes, for the love and loyalty he bore to his king and country,

JAMES, DUKE of HAMILTON.—Born in Lat. 56°.

♄	North Latitude	1	0
♃	North Latitude	1	0
♂	South Latitude	2	0
♀	South Latitude	3	0
☿	South Latitude	4	0
☽	South Latitude	1	0

This is a glorious nativity; there being no leſs than five planets moſt eminently dignified with the luminaries above the earth, in admirable reception of each other. The light of time is located in the houſe or angle of dignity; and the lord of the aſcendant is in his own eſſential dignities, in the medium-cœli, all which are ſo many arguments of martial fame and glorious atchievements, productive of immortal honour and renown. But, though this native's life was for the moſt part

thus eminently diſtinguiſhed, yet his end was tragical and unfortunate, for he died by the hands of his enemies, in the forty-ſecond year of his age, having at that time the aſcendant directed to the quartile of the maleſic planet Saturn, in the beginning of the ſign Libra, and Saturn radically poſited in the fourth houſe. And on the day he was routed by Cromwell in Lancaſhire, namely, on the 17th of Auguſt, 1648, Mars, in his revolution, was in the quartile place of the Moon, and Saturn ſtationary, to retrogradation, in the place of Mercury, lord of his aſcendant; the Moon being then in oppoſition, and the Sun in the very oppoſite place of Jupiter; all which malicious tranſits in his revolutional figure were eminent tokens of diſcomfiture and defeat in that ill-adviſed engagement; and this the rather, becauſe the mid-heaven was thus directed to the oppoſition of Saturn.

In 1643, January the 3d, he was ſent priſoner from Oxford to Pendennis Caſtle in Cornwall, where he continued until the year 1646. Saturn was then in quartile to the Sun, and Mars in oppoſition to the lord of his aſcendant, and a very bad revolution he had for that year. But, towards the end of the year 1642, King Charles entertained him very honourably at court, and advanced him to conſiderable honours and employments. He had then operating the mid-heaven to the trine aſpect of Jupiter.

On the day he was beheaded, being March the 9th, 1648, the Moon was in conjunction of Saturn; whoſe quartile was promittor in the direction of his death, and the Sun was upon the very degree of the eighth houſe of his nativity, nearly in oppoſition with Jupiter, and the fiery planet Mars had juſt paſſed the horoſcope of his birth. Hence we derive the following arguments of a violent death: namely, Saturn oppoſing the Sun from angular houſes; the Dragon's Tail on the cuſp of the eighth houſe; Mars on the cuſp of the fourth, in oppoſition to the tenth, and the Moon by her latitude in the eighth houſe.

The EARL of STRAFFORD.—Born in Lat. 51°. 32′. viz. London.

This native was a perſon ſo ſingularly accompliſhed, that King Charles, after bemoaning his unfortunate end, and reflecting upon himſelf for conſenting to his death, wrote as follows: "I looked "upon my Lord of Strafford as a gentleman, whoſe abilities might "make a prince rather afraid, than aſhamed, to employ him in the "greateſt affairs of ſtate; for theſe were prone to create in him great "confi-

" confidence of undertakings, and this was like enough to betray him " to great errors and many enemies; whereof he could not but con- " tract good ſtore, while moving in ſo high a ſphere, and with ſo " vigorous a luſtre, he muſt, like the Sun, raiſe many envious exha- " lations, which, condenſed by a popular odium, were capable to caſt " a cloud upon the brighteſt merit and integrity."

To denote the eminent accompliſhments of this noble perſonage, for the purpoſes of government and good policy, he hath Virgo aſcending; a ſign which uniformly repreſents a native admirably ingenious and prudent. Mercury, lord of the aſcendant, is in Taurus, with the Sun, the ſovereign light of time, caſting a trine aſpect to the aſcendant. Mercury is at the ſame time lord of the tenth houſe, and of the aſcendant likewiſe, which is a certain preſage of honour and dignity to the native, by the natural excellencies and endowments of his mind. It is nevertheleſs to be conſidered, that Mercury is combuſt of the Sun, and the Moon and Mars are in exact quartile to him; conſigurations, which not only eclipſed the reputation of his great abilities, but argue that his relations and friends, as well as his enemies, ſhould envy him the honour and preferments thoſe great abilities procured him.

Mars, with the Sun and Moon, govern the eleventh, twelfth, and third, houſes of the horoſcope; and Saturn being locally and virtually in the eleventh houſe, in oppoſition of Jupiter, ſhews the falſhood and perfidiouſneſs of his friends, and the violence and malice of his enemies; and, to add to theſe diſcordant configurations, the cuſp of the mid-heaven is the exact antiſcion of Saturn, and the contra-antiſcion of Jupiter.

When this nobleman was near forty years of age, he was conſtituted and appointed Lord Deputy of Ireland. He had then operating in his nativity, the Moon to the ſextile rays of the Sun, and the mid-heaven to the antiſcion of Venus by direction. At forty years old, viz. November 12, 1640, he was impeached for high treaſon. Mars was that day in oppoſition to the aſcendant, and in quartile of Mercury, lord of the medium-cœli, and of the aſcendant. On the 19th of November he applied for bail, but was refuſed. The Moon was then in oppoſition to Mercury, and the Sun in oppoſition to the tenth houſe. On the 23d of the ſame month he was committed to the Tower. The Moon was then in oppoſition both to Mars and to her own radical place in the geniture.

On

On the 28th of January, 1641, he was firſt impeached in the Houſe of Commons. The Moon was at this time in oppoſition to Saturn's place, and Mars poſſeſſed the Sun's place in the radix. On the 30th of January, he was impeached in the Houſe of Lords. Mars ſtill occupied the Sun's place, and the Moon continued in conjunction with the Sun in the ſixth houſe.

On the 15th of April, 1641, this native was declared guilty of the treaſonable practices with which he had been charged. The Moon was then in oppoſition to the Sun, near his radical place; Saturn was in oppoſition to the aſcendant; the Sun was in quartile of the place of Mars, and Mars upon the place of Venus, in the tenth houſe. On the 10th of May the King ſigned the warrant for his execution. Mercury was then ſtationary, and Saturn in oppoſition to the aſcendant; and the Moon was in quartile of Mars and Venus. On the tenth day of the ſame month this native was beheaded, in the forty-eighth year of his age. The Moon was then in exact oppoſition to the Sun, and Saturn in oppoſition to the aſcendant. But to ſhew a more eminent deſignation of theſe afflictions, and eventually the loſs of his life by them, he had the mid-heaven directed to the conjunction of Saturn, and to the oppoſition of Jupiter. The Moon was likewiſe ten digits eclipſed in the very beginning of the revolutional figure of that year, and Saturn and Mars were both afflicting the aſcendant of the geniture. Thus fell this great and diſtinguiſhed character, who was excelled by few in the bright ornaments of wiſdom and underſtanding.

GEORGE VILLERS, DUKE of BUCKINGHAM.

Born in Lat. 53°.

♄	South Latitude	1	0
♃	South Latitude	1	0
♂	North Latitude	0	0
♀	North Latitude	1	0
☿	North Latitude	2	0
☽	North Latitude	4	0

This native was a remarkable favourite of King Charles the Firſt; and indeed, to a perſon verſed in the aſtral ſcience, there can be no wonder, ſince there is ſuch an aſtoniſhing ſympathy in their nativities; for the ſigns are not only poſited the ſame upon the cuſps of the celeſtial houſes, but Jupiter's place in the one nativity is the place of the Sun in

in the other; and the Moon's place is preciſely the ſame in both. Such an harmony and ſimilar coincidence of matter in the temperature and endowments of theſe two natives, could not but produce that remarkable concurrence of judgment, and familiarity of ſentiment, which was uniformly diſcovered in the actions and manners of theſe eminent perſons.

This illuſtrious native was not without his ſhare of private enemies, who uſed every means to alienate the king's good opinion and favour towards him. But vain was the attempt; for, where the heavens form an unity of ſentiment, it is beyond the ſubtlety of human invention to diſſolve it.

In the year 1627, on the 27th of July, this native being then near thirty-five years old, embarked for the Iſle of Rhee. The ſucceſs of this undertaking by no means anſwered the expectations that had been formed of it; and which was before hand but too evident; for, on the very day he ſet ſail, Mars was in exact quartile to his aſcendant at birth, and to the Sun's place alſo; the Moon was in quartile to the place of Mars and Venus, and to the Sun, and in oppoſition of Jupiter; all which unfortunate poſitions previouſly declared the expedition to be as unſucceſsful as it eventually proved.

In the year 1628, on the 23d of Auguſt, this native, being near thirty-ſix years old, was baſely aſſaſſinated and ſtabbed at the Crown Inn, in Portſmouth, by a ruffian of the name of Felton. The Moon was that day in quartile of the aſcendant at birth, and the ſun in the radical place of Mars; and in the revolutional figure for that year, the Moon was in exact quartile of Mars and Jupiter. And, beſides this congreſs of maleſic tranſits, which in themſelves were alone ſufficient to deſtroy life, there was a fatal direction operating at the ſame time, of the aſcendant to the body of Mars. The grand argument of a violent death in this nativity, is the conjunction of the Sun and Mars, in the quartile to the lord of the eighth houſe, who is in conjunction of that violent fixed ſtar, the Heart of the Scorpion.

WILLIAM LAUD, ARCHBISHOP of CANTERBURY.

Born in Lat. 52°.

♄	North Latitude	1	59
♃	South Latitude	1	44
♂	North Latitude	0	35
☉	South Latitude	0	10
♀	South Latitude	4	50

Libra aſcends the eaſtern horiſon of this nativity, which is a ſign of juſtice and mercy. Mercury, the true patron of ſcience and learning, is in conjunction of Spica Virginis, in the aſcendant; and Jupiter is in the ninth houſe, with Oculus Tauris in trine to Mercury, and the Moon and Venus are in friendly trine with the cuſp of the angle of honour and dignity, and enjoy the ſame benign configuration with each other, and that from good places of the figure. To ſhew that the native would be learned and pious, there are ſeveral ſtars of the nature of Jupiter and Mars culminating, which in many genitures have been found to raiſe the native even from the loweſt degree in the church to the higheſt honours and preferments of eccleſiaſtical juriſdiction and authority.

Another argument of the epiſcopal dignity of this divine, is deduced from the circumſtance of cardinal ſigns poſſeſſing the principal angles of the figure: for, as the greateſt actions of the world depend on the cardinal points of the heavens, viz. Aries, Cancer, Libra, and Capricorn, ſo the moſt eminent perſons, ſuch as riſe to honour and preferment highly ſuperior to their birth and expectancies, have thoſe cardinal points upon all the angles of their nativities. Thus it was in the geniture of Cicero, whoſe parentage, if authors may be credited, was ſo obſcure as ſcarcely to be known; yet was he elevated to ſuch a pitch of honour, as to be called "*the father of his country.*" And thus it was with Oliver Cromwell; and may be ſeen in the genitures of a thouſand others, who have riſen highly ſuperior to all their cotemporaries, by having theſe cardinal ſigns thus fortunately poſited on the angles of their figures of birth, with other concording teſtimonies of dignity and honour.

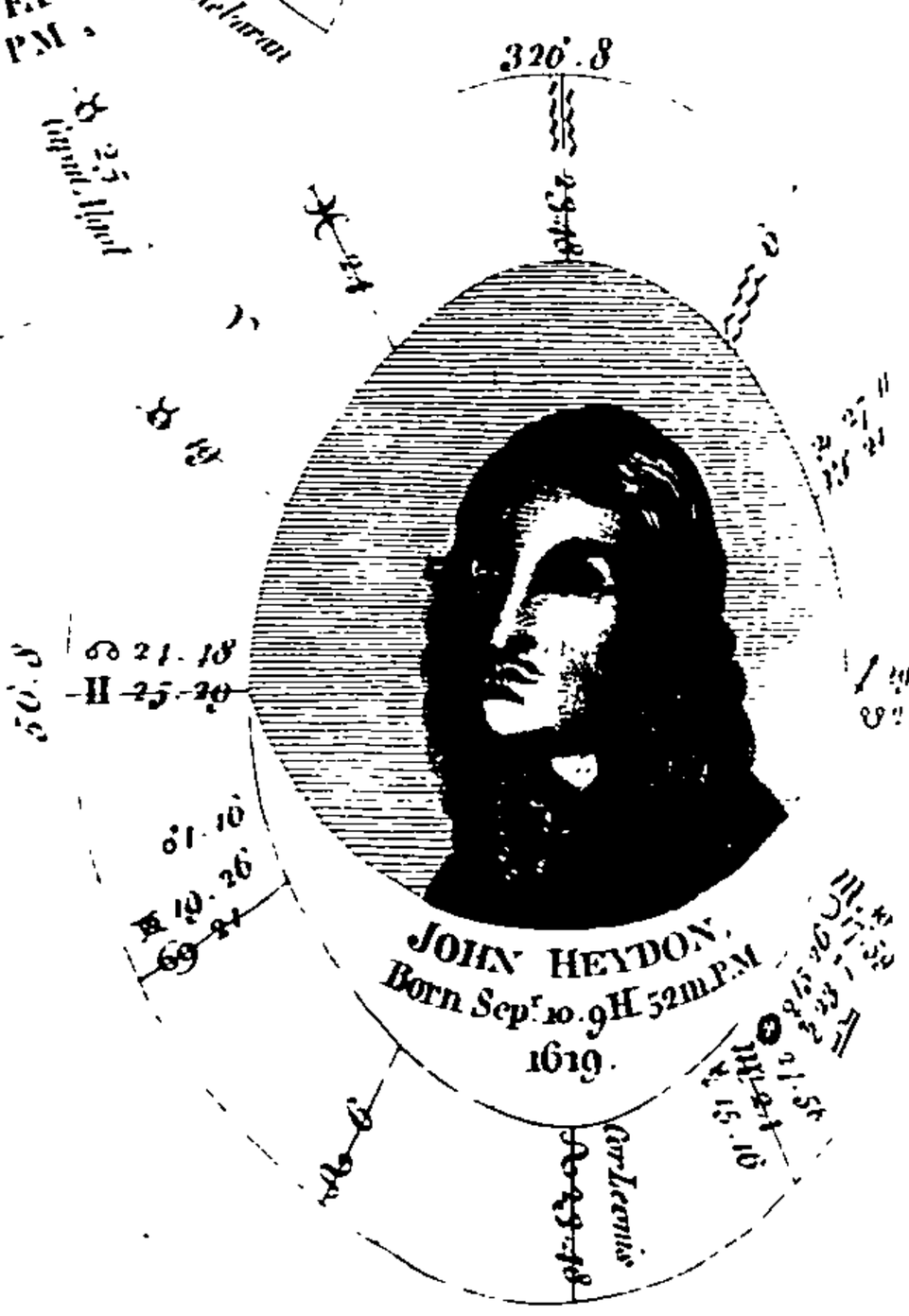
If we carefully examine the conſtitution of this figure, we ſhall find the cauſe of this native's impriſonment, misfortunes, and violent death, to be very naturally pointed out. The lord of the twelfth houſe poſited in the aſcendant, gives many malicious private enemies, and denotes impri-

HENRY CORNELIUS AGRIPPA
Born Sept 14 5H 21m P.M.
1486.
From Origanus

MARCUS TULLIUS CICERO.
Born Aug.t 5. 7H. 5m A.M.
Anno Mundi 3843
From Cardan

NICHOLAS CULPEPER.
Born Oct 18. 11m P.M.
1616.

WILLIAM LILLY.
Born. April 30. 11H 8m P.M.
1602.



JOHN HEYDON.
Born Sept.r 10. 9H. 52m P.M.
1619.

impriſonment, founded on the principles of falſe teſtimony, of treachery and deceit. Beſides this, the fiery planet Mars is upon the cuſp of the twelfth houſe, in oppoſition to the Moon, and in quartile to her own diſpoſitor; and that he ſhould die a violent and premature death, is obvious from the poſition of Mars in oppoſition to the Moon, and the lady of the aſcendant poſited in a violent ſign, in conjunction of Saturn, lord of the fourth houſe.

The mid-heaven directed to the body of Mars was the occaſion of this native's impriſonment; and, according to Mr. Gadbury, from whom moſt of theſe nativities are taken, Saturn directed to the conjunction of the aſcendant was the cauſe of his death. But, according to the *true Placidian method*, the Sun muſt be directed for death, becauſe he is *Hyleg*, and Mars is undoubtedly the *Anareta*. For a proof of this, let the revolutional figure for the year of the native's death be examined, where we ſhall find Mars in conjunction with the Sun, and Saturn located in the ſixth houſe, in the ſign Aries, the houſe of Mars; ſo that the two infortunes contributed to the untimely death of this celebrated divine, who for learning and abilities was equalled by few, and excelled by none.

CORNELIUS AGRIPPA.

The nativity of Cornelius Agrippa, as handed to us from the ancients, is diſplayed in the annexed plate. But, as this geniture has been conſidered, by all the profeſſors of the aſtral ſcience, not authentic; which indeed appears but too obvious from the diſcordancy of its parts, and from the impoſſibility of its admitting the teſt of rectification; I decline giving any remarks of my own upon it; and ſhall leave it, as he was an uncommon character, to the contemplation of thoſe, who may hereafter riſe to greater perfection in aſtrological enquiries.

MARCUS TULLIUS CICERO.—Born under the Latitude of Rome.

We have no right, if we credit Carden and Lyndbolt, to queſtion the time of this celebrated native's birth. The figure exactly correſponds with the deſcription of his perſon given us by Plutarch, which is that of a lean, weak, and ſickly, temperature and conſtitution; which is aptly enough declared by the Moon in Capricorn, in the ſixth houſe, ſhe being lady of the aſcendant, and Saturn her diſpoſitor in quartile of the Sun, and Mercury approaching the aſcendant from fixed ſigns. Now, concerning his manners and gift of ſpeech, Carden deſcribes him to have

have poſſeſſed a loud and clear articulation, but that it was harſh, and the leſs captivating, on account of the deficiencies of his perſon and manner, which wanted grace and comelineſs. This ſeems well prenoted by the conjunction of Venus with Mercury in the aſcendant, aſſiſted by the preſence of the Dragon's Tail, accompanied with Saturn's quartile, combuſt of the Sun.

The honour and reputation which this native acquired is repreſented, in a very ſtriking manner, by the eſſential dignities of the Sun, in trine aſpect with Mercury, Venus, and Mars, in the angle of dignity and ſovereignty; the Sun likewiſe having his exaltation therein. Jupiter, who is lord of the ninth, is in conjunction alſo of Saturn in the fifth houſe, and thence emitting his benign rays to the aſcendant, which is an additional argument of very important acquiſitions in the ſcale of honour and preferment.

Plutarch tells us, that Cicero's nurſe was admoniſhed by a viſion to beſtow the utmoſt care and attention upon the child then at her breaſt; for that he ſhould become the moſt diſtinguiſhed character amongſt all the Romans; and yet he was but the ſon of a bond-woman, and of mean extract. This prediction, however, whether imaginary or real, was literally fulfilled; for he was twice made Conſul of Rome, and, for the timely diſcovery and prevention of Catiline's conſpiracy, he was ſurnamed by Cato, "*the father of his country.*" He died by aſſaſſination in the ſixty-fourth year of his age, having ſuffered the chief misfortunes of his life in his grand climacterical year.

It is written of him, that, when he was ſent into exile, he was forewarned of his death, by an uncommon flight of crows, which came and ſettled upon the maſt and yards of the ſhip in which he was ſailing; that, when he came on ſhore, the ſame flight of birds followed him to the houſe in which he was accommodated, and even forced their way through the chamber windows where he lay, cloſe to his bed ſide. He was ſoon after betrayed by his own ſervant, a youth he had bred up, into the hands of Herrenius and Popilius Læna, who baſely murdered him.

NICHOLAS CULPEPER, Student in Phyſic and Aſtrology.
Born in Lat. 51°. 32'.

♄	South Latitude	3	0
♃	North Latitude	0	35
♂	North Latitude	0	57
☉	North Latitude	0	26
♀	South Latitude	1	30
☽	North Latitude	5	0

The ſign aſcending we find to be Capricorn, a ſign of brevity; and Saturn, lord of the aſcendant in Taurus, another ſign of brevity; and the Moon located in the ſixth houſe, decreaſing in light, are all arguments of a middle ſtature, ſomewhat ſpare and lean; a complexion dark and ſwarthy; brown hair, long viſage, quick eyes, active nimble body, alert, and full of agility; which is deſcribed by the Moon's poſition in the houſe of Mercury, in ſextile of Mars, with Saturn, and the other planets in the houſe of Venus, and having ſouth latitude.

As to the manners, temperature, and conſtitution, of this native, he was melancholy and choleric, occaſioned by an earthy ſign occupying his aſcendant, and Saturn's poſition being in an earthy ſign alſo. The Moon with martial fixed ſtars, of the ſame nature in the aſcendant, is a further teſtimony of a choleric habit; but the greateſt proof of a ſuperabundance of choler in the native's conſtitution, is the Sun's reception with Mars from violent ſigns, which declares that choler ſhould overpower the melancholy humour, and become predominant. As to his underſtanding, and mental acquirements, Mercury, the patron of ingenuity, &c. is the moſt potent planet in the horoſcope; and, being poſited in Scorpio, the houſe of Mars, and ſo near the invigorating beams of Venus, is an evident demonſtration that the native ſhould be of an excellent wit, of a ſharp acute fancy, admirable conception, and of an active brilliant underſtanding.

He was a very eloquent and good orator, and ſpoke both fluently and freely, but with much ſeverity and ſatire, as the quartile of Mars and Mercury very aptly denotes. In his writings, he had a ludicrous turn, ſo inſeparable from him, that, in things of the moſt ſerious and important nature, he would introduce ſubjects of levity and humour, which I preſume was calculated more to pleaſe himſelf than his readers, though perhaps it was intended to do both. To this ſingular turn he is indebted to the joint influx of Mars, Mercury, and Venus.

As to matters of eſtate, he had the fixed ſign Aquaries on the cuſp of the ſecond houſe, and the Moon and Jupiter caſting their friendly rays to the ſame point, with the fortunate node of the Moon in the houſe of Jupiter; all which are teſtimonies of a competent fortune. Yet, oppoſed to this, we find the lord of the ſecond houſe retrograde, upon the cuſp of the fourth, in quartile to the ſecond, and Venus his diſpoſitrix combuſt, in quartile of Mars, and in quartile to the ſecond alſo; which are plain demonſtrations of the loſs of ſubſtance, and of the decay of his paternal patrimony. And hence we find, that Mars afflicting Mercury, with the Part of Fortune in an obſcure part of the heavens, and the Sun lord thereof in oppoſition to Saturn, influenced him to ſquander away his eſtate, both careleſsly and improvidently, even to the ſhocking extremity of reſtraint or impriſonment. This gave occaſion to that jocular ſaying of his brethren of the faculty, that poor Culpeper was ſorely afflicted with a "*Conſumption of the purſe.*"

However ſeverely this reflection might be conſidered, its application was but too juſt. At the univerſity, he was as free with his purſe as with his pen, and cared not how little was left for himſelf, ſo that he could effect the happineſs or welfare of others. And really, if he had not had the Dragon's Head in the ſecond houſe of his geniture, he would have been perpetually poor; for the arguments of poverty in his radix are ſo uncommonly ſtrong, through the propenſity of his will, that, had he been born to the moſt ample eſtate, he would in a ſhort time have ſquandered it away, and become pennyleſs.

As to the native's kindred and ſhort journeys, Mars is the principal ſignificator thereof; and his poſition in the eighth is the moſt unfortunate place in the whole heavens. He is likewiſe in quartile of four planets, viz. the Sun, Venus, Saturn, and Mercury; which is a further proof of great unhappineſs to the native from family diſputes; and promiſes no great ſucceſs in his ſhort and inland journeys. Again, we find Aries upon the cuſp of the third houſe, and Mars poſited in a ſteril ſign, which ſhews a deficiency of brothers and ſiſters, or no harmony with them, in caſe of any. It were needleſs to repeat the many misfortunes this native ſuſtained on account of his relations; or to recount the perils and dangers he encountered upon ſome of his journeys, it being ſufficient to confirm the verity of this art, by affirming that he never gained any advantage by either.

With regard to his parents, we find Saturn, the general ſignificator of fathers, and Venus, the repreſentative of mothers, are in oppoſition; and

and Mars, lord of the tenth houſe, in quartile to them both, from fixed ſigns, which clearly ſhews that the parents of this native would die before he was of age; but, had they lived till he had come to years of maturity, I do not ſee how he would have been bettered by them, ſince their ſignificators are every way found ſquaring and oppoſing his. By the account he gives himſelf of his parents, they died while he was young, and his mother's relations cheated him out of a good part of his eſtate.

As to the ſignificators of wife and children, we have the Moon, lady of the ſeventh houſe, in a double-bodied ſign, which ſeems to preſage two wives; but Venus, a general ſignificatrix of wives, being combuſt of the Sun, and in an evil aſpect of the infortunes, oppoſes this influence ſo powerfully, that, did ſhe not caſt a prolific beam to the aſcendant, and another to the ſeventh houſe, the native would ſcarcely have ever married at all. Under theſe circumſtances we deduce an argument for one wife only, which happened in courſe.

Venus governing the fifth houſe in Scorpio, a fruitful ſign, irradiating both the aſcendant and ſeventh, promiſes the native many children. But Caput Meduſa being upon the cuſp of the fifth, and Venus combuſt, in oppoſition to Saturn, and in quartile of Mars, in the houſe of death, declares very few, if any of them, ſhould live. It afterwards turned out, that the native had but one wife, and by her he had ſeven children, and they all died young, except a daughter, who lived to years of maturity.

The native's public and private enemies are ſignified by the Moon and Jupiter; but principally by Jupiter himſelf, becauſe he hath great dignities in the twelfth and ſeventh houſes. Mars has alſo a ſhare in the deſignation of his enemies, becauſe he is in trine of Jupiter, and in ſextile of the Moon, and beholds the lord of the aſcendant with a quartile ray. Now it is well known that Mars repreſents phyſicians, apothecaries, &c. and Jupiter divines; and thoſe two deſcriptions of men were really found to be the greateſt enemies of the native, both public and private: the faculty hated him for ſimplifying the art of medicine; and the church deſpiſed him for his ſuperior knowledge in the aſtral ſcience. Yet neither of them durſt venture to diſpute with him upon the ſimplicity of the one or the reality of the other, notwithſtanding he gave ſeveral public challenges to both the colleges, to enter the liſts with them.

We

We ſhall now take notice of the repreſentatives of his friends; and here I am ſorry to ſay, we have but few teſtimonies in their favour. Mars, lord of the eleventh houſe, being in quartile to four planets, denotes the native's friends, or at leaſt ſuch as pretend to be ſo, are hypocritical and deceitful; and of ſuch covetous diſpoſitions, that he would ſeldom be bettered by them. It is well known the native has often declared, that he had a few who called themſelves his friends, but that he was more prejudiced than ſerved by them; for that, when he moſt ſtood in need of their aſſiſtance, and promiſed himſelf the advantages of it, they generally deceived him.

With regard to honour and preferments, Origanus tells us, that the Sun in the tenth houſe is a certain preſage of honour and preferment; and that Venus, when poſited in the tenth, is a general ſignificatrix of honour by the means of women; and alſo, that the Moon in ſextile of Mars, and the Sun in reception with him, when he is lord of the tenth houſe, are evident proofs of future honour, fame, and renown. And indeed, had not Saturn, who is lord of the aſcendant, been in oppoſition of the Sun, the general ſignificator of honour, and in quartile of Mars, the native would certainly have obtained a far higher degree of eminence in life than he really did; but, although he was an enemy to his own preferment, yet, in the latter part of his life, he encreaſed very much in fame, honour, and reputation; and, if we enquire by what means, we ſhall find the ſextile of the Moon and Mars, lord of the tenth, and Venus, lady of the ninth, locally poſited in the tenth, and caſting a ſextile aſpect to the aſcendant, in joint familiarity with Mercury, lord of the ſixth, the ſtrongeſt planet in the figure; we ſhall not therefore be ſurpriſed to ſee the native arriving at a very elevated degree of fame, honour, and reputation, on account of his ingenuity, ability, and knowledge in the arts and ſciences. This, however, is not likely to be obtained without much difficulty and oppoſition, as appears by the quartile aſpect of Mars to Mercury. It is, I believe, very well known, that the native grew into public eſteem, by means only of his great abilities, and ſuperior underſtanding, particularly in phyſic and ſurgery, and of the ſciences in general.

The cauſe and manner of his death, according to the aſtrologers of his time, are pointed out as follow. The fiery planet Mars, poſited in the eighth houſe, in quartile to Saturn, lord of the aſcendant, ſeems to portend a violent death; but the Sun being on the cuſp of the mid-heaven, near the body of Venus, and in reception of Mars, with the Moon in the ſixth houſe, abates much of the fury of Mars, and makes

is somewhat probable the native may die of a consumption, or by decay of natural strength and stamina. However this may be, he died on Monday the tenth of January, 1654, when the Moon was in quartile to the radical place of Mars, and the Sun in quartile to his own and to Saturn's place in his nativity; Saturn and Jupiter at the same time beholding each other with an opposition. From this position of the significators, it has been thought by some, that he was maliciously poisoned; and indeed, by the above configurations, it is not unlikely but some of the Esculapian tribe had a hand in his death.

The accidents or events by which this nativity is rectified are these. At eighteen years old, he went to the university: the Sun was then directed to the body of Mercury, and the ascendant to the sextile of the same promittor. At twenty-fourth years old, he particularly applied himself to the study of physic: the Moon was then directed to the trine of Mercury, her dispositor, in the radical figure of birth. At the age of twenty-seven years, he went into the army, and was wounded by a musket shot in the fore part of his body, of which he never recovered to the day of his death: at the time of this accident, the ascendant came to the quartile of the Sun, and soon afterwards to the quartile of Saturn, which prolonged and continued the malady. In the thirty-eighth year of his age, he died: the ascendant then came to the opposition of Mars with latitude. Upon examining and comparing the revolutional figure with the radical horoscope, we find the strictest agreement betwixt them: Saturn passes the radical place of Mars, and re-occupies the ascendant; the Sun and Jupiter behold each other with a quartile ray; and Jupiter comes in opposition to the place of Mars, and in quartile to his own radical place likewise: which evil revolutions, agreeing with malefic directions, necessarily prefigure approaching death.

WILLIAM LILLY, Student in Astrology.—Born in Lat. 52°. 38'.

♄	North Latitude	1	44
♃	North Latitude	1	56
♂	North Latitude	1	27
♀	South Latitude	0	40
☿	South Latitude	2	47
☽	North Latitude	2	33

I shall only give the horoscopical figure, and the latitude of the planets in this nativity, because the native has given two different times of

his own birth, which might be ſeen in his Ephemeris, printed in the year 1645, and in another work of his, entituled, The Chriſtian Aſtrology. And therefore, as I am an enemy to every ſpecies of double dealing, I ſhall content myſelf with pointing out the fraud, and leave others to make their remarks upon a nativity, which, having no certainty for its baſis, can afford no amuſement to intelligent minds.

JOHN HEADON, Chemiſt and Aſtrologer.—Born in Lat. 51°. 32'.

♄	North Latitude	2	3
♃	South Latitude	0	18
♂	South Latitude	0	19
♀	North Latitude	0	38
☿	North Latitude	1	23
☽	North Latitude	3	15

We have here the geniture of a perſon of an uncommon deſire for ſearching into the occult myſteries, and for obtaining a knowledge of all the curious arts. This propenſity is very aptly deſcribed by the great ſtrength of Mercury, lord of the aſcendant, in his exaltation, in ſextile to Jupiter, and in trine aſpect of the Sun, whereby the mental endowments of the native far excelled the common lot of mankind.

He wrote many curious books, which are now very ſcarce and valuable. His Temple of Wiſdom, Holy Guide, Harmony of the World, Roſie-Crucian Phyſic, and ſeveral other myſtic pieces equally curious, being far above the common ſcope of claſſical learning, were equally admired, envied, and abuſed, as beſt ſuited the purpoſe of each different reviewer. This is aptly deſcribed by the quartile of the Sun and Mars, the Sun at the ſame time beholding the aſcendant with the ſame aſpect, and Saturn beholding Jupiter with a quartile from cardinal ſigns. Mars poſited in the aſcendant, in quartile with the Sun, very aptly denotes impriſonment, reſulting from the frowns and ill-humour of great perſons, or men in power. This diſgrace really happened to he native, in the troubleſome times of King Charles, who deteſted him for the truths he told.

I ſhall omit entering into any particulars upon his nativity, becauſe he has publiſhed it himſelf in the compleateſt manner in his Harmony of the World, to which I beg leave to refer the curious reader.

JOHN

JOHN GADBURY, Student in Aſtrology.—Born in Lat. 51°. 45′.

♄	South Latitude	2	29
♃	South Latitude	0	47
♂	South Latitude	2	11
♀	North Latitude	0	50
☿	South Latitude	3	8
☽	North Latitude	3	30

Mr. Partridge having taken great pains in the calculation of this nativity, and worked up its ſeveral directions according to the Placidian method, it were needleſs for me to go over the ſame ground, or to repeat any thing more in this place, than a few of the principal accidents whereby the horoſcope of his birth is rectified, or proved to be radically true.

At eighteen years and ten months old, the Sun came to the parallel of Saturn in his nativity, by the rapt motion. At this time the native was afflicted with a ſurfeit, accompanied with a violent intermittent fever.

In the year 1651, when the native was twenty-three years and three months old, he was married. This happened under the direction of the Moon to the ſextile of the Sun in mundo, by direct direction.

When the native was fifty-one years and eight months old, he was impriſoned. The direction that brought this up was the midheaven to the body of Saturn.

At the age of fifty-nine years and ten months, the native was married the ſecond time. The direction producing this hymeneal contract was the midheaven to the triangular rays of Venus.

When the native ſixty-two years and eight months old, he was involved in great trouble, and ſuffered confinement. This was brought to paſs under the influence of the Sun directed to the parallel of Saturn in the zodiac, by oblique aſcenſion.

At the end of ſeventy-ſeven years and three months from the day of his birth, viz. March 24, 1704, the native departed this life. The direction which foretels his death, is Mars to the parallel of Saturn, by the rapt motion, whereby the aphetical and anaretical beams, falling into one focus, abſorbed the vital ſpirit, and ſeparated the eſſence from the material body.

AN ILLUSTRATION

VINCENT WING, Student in Aſtrology.—Born in Lat. 52°. 40'.

♄	South Latitude	1	51
♃	South Latitude	0	57
♂	North Latitude	2	46
♀	North Latitude	0	20
☿	South Latitude	1	23
☽	North Latitude	0	46

In this nativity Libra aſcends the horoſcope, and Spica Virginis, an eminent fixed ſtar, is poſited in the aſcendant. Venus, lady thereof, is in Piſces, in trine of the Moon in Cancer, in the ninth houſe, in an eminent reception of Jupiter. Mercury, the patron of arts and ſciences, is in the ſign Aries, in reception of Mars; and there are in the ſcheme no leſs than four planets eſſentially dignified, viz. the Sun, Jupiter, Venus, and the Moon; two of them in their exaltation, and two in their own houſes. Theſe are teſtimonies of an admirable ſignification and tendency, which not only procure credit and fame, but conſtitute the natural and proper ſupport thereof, viz. a generous mind, with a competent eſtate. To render this the more eminent and durable, the Sun caſts an amicable aſpect to the Part of Fortune; as doth the Moon and Venus to the cuſp of the ſecond houſe.

All the angles of the figure are poſſeſſed by cardinal ſigns; and in that reſpect he had honour and ſucceſs in his profeſſion as an aſtronomer; and was eſteemed by the great, and regarded by all, as the wonder of his time, and the prodigy of the age in which he lived, for the eminent and famous things he did in the ſcience of Aſtrology.

This native began to write for public information and utility when he was but twenty-two years old. He had then the Sun directed to the ſextile rays of Venus, lady of the aſcendant, in Taurus, her own dignities; which is an eminent argument of the happy and deſerved eſteem his writings met with in the world.

Many ſpeculations and intereſting concluſions might be drawn from this figure; but, as my deſign herein is only to give the rudiments whereby to initiate the young ſtudent into the art of bringing up directions, I ſhall only take notice of the manner of his death.

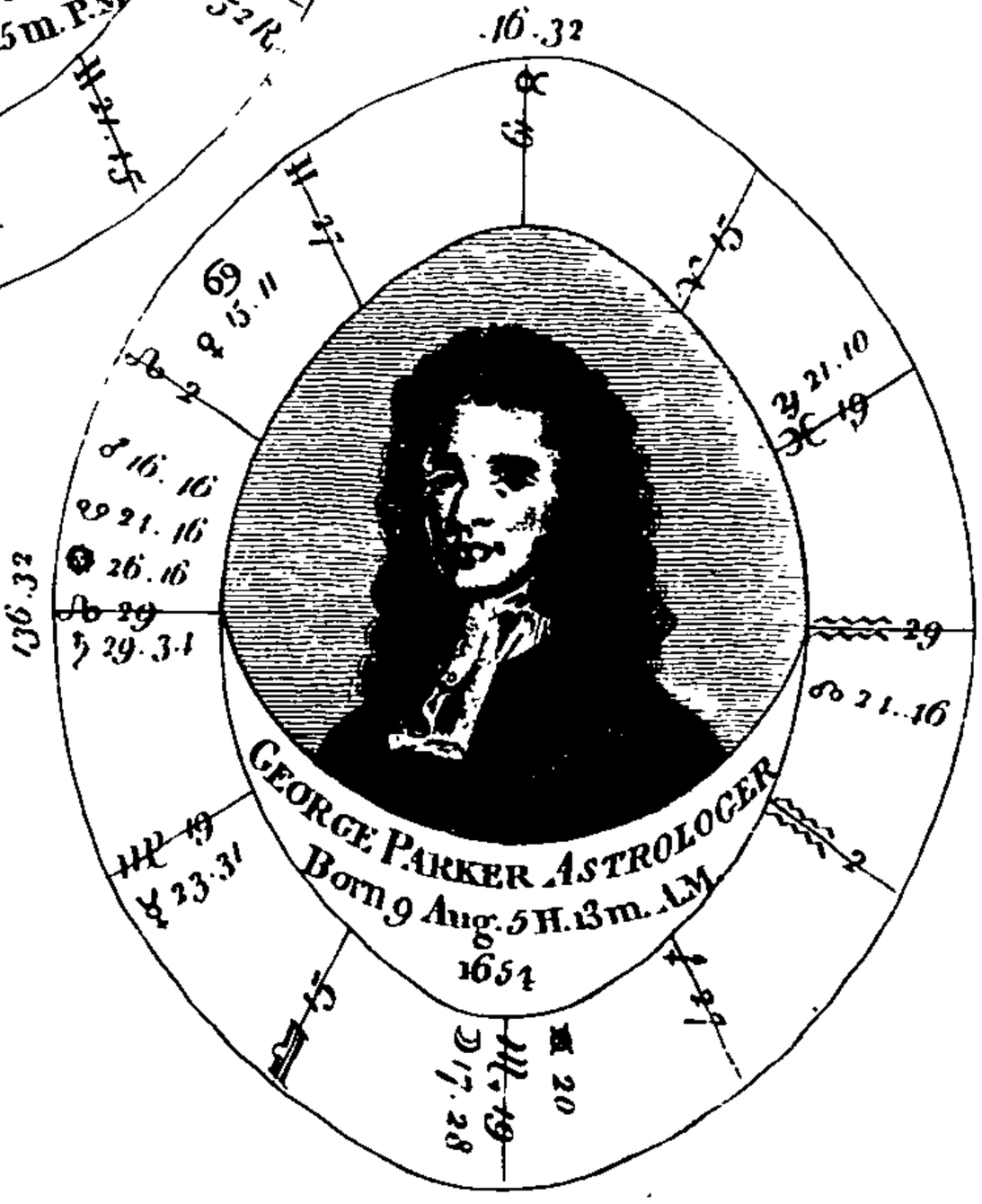
The Sun is without diſpute the giver of life, and Mars and Saturn are the deſtroyers. The Sun is therefore to be directed to the quartile of


JOHN GODBURY, ASTROLOGER
Born 1 Feb. 2H. 25m. AM
1627.


VINCENT WING ASTROLOGER
Born 9 April 5H. 48m. PM
1619.


HENRY COLEY, ASTROLOGER
Born 18 Oct. 2H. 15m. PM
1633


JOHN PARTRIDGE ASTROLOGER
Born 18 Jan. 2H. 27m. PM.
1644


GEORGE PARKER ASTROLOGER
Born 9 Aug. 5H. 13m. AM
1654

of Mars in mundo, and to the conjunction of Saturn in the zodiac, and, immediately after ſuch conjunction was formed, heightened by the beams of Aldebaran, it was natural to ſuppoſe the native would expire under the oppreſſion of a conſumptive or hectic habit of body; which really put a period to his exiſtence on the 20th of September, 1668.

HENRY COLEY, Mathematician and Aſtrologer.

Born in Lat. 51°. 42′.

♄	1	28
♃	0	22
♂	1	36
☿	1	13
☌	2	0
☽	1	59

When this native was between nine and ten years of age, he had the ſmall pox; at which time the Moon was directed to the Virgin's Spike, upon the cuſp of the eighth houſe. This direction is found by oblique deſcenſion, under the Moon's pole, viz. 50°. 4′.

In the middle of Auguſt, 1644, aged ten years and ten months, the native was afflicted with a violent ſpotted fever and ſore throat. This was produced by the aſcendant to the oppoſition of Mars. At fourteen years of age he had a tertian ague. This was the aſcendant to the quartile of Saturn.

When fourteen years and ſix months old, the native entered into the army. This inclination is pointed out by the Sun to the quartile of Mars in Scorpio. At ſeventeen years old, he had a dangerous fall from a horſe, and was likewiſe in danger of being drowned. This is deſcribed by the conjunction of the Moon and Mercury in the eighth houſe. In September, 1652, the native was ſettled in a regular line of buſineſs; and then the trine aſpect of Mars came to the mid-heaven. In April, 1654, the native went a journey to London, and was taken ill with a fever and ſurfeit. This was produced by the conjunction of the Sun and Moon in the eighth houſe.

On the firſt of May, in the year 1656, the native entered into the holy ſtate of matrimony. This was occaſioned by the force of the aſcendant, directed to the oppoſition of Venus; which ſhews likewiſe that the marriage ſhould not be very harmonious nor happy, nor of long

duration with reſpect to the life of the bride. This marriage, however, produced one child, which was born in June, 1657, under the aſcendant directed to the quartile of Jupiter in a fruitful ſign.

On the 24th of April, 1660, the native was married the ſecond time, under the influence of the aſcendant to the Dragon's Head; which, being a good benevolent direction, produced a good wife and a happy marriage. On the third of September, 1661, the native had a ſon by this lady, born under the aſcendant directed to the trine of Saturn in Sagittarius and Aries, which are both maſculine ſigns.

In the year 1663, the native publiſhed his Clavis Elmata, under the direction of the Sun in the ſextile of Mercury. In May, 1672, he had a ſhort but violent fever, which ſeemed to threaten life. This was produced by the aſcendant to the oppoſition of the Sun. Upon his recovery, he greatly enlarged and improved his Clavis Elmata; at which time the Moon came by direction to the mid-heaven. In the year 1673, the native firſt wrote and publiſhed his ſo much celebrated Almanack. The mid-heaven was then in trine of the Moon.

Theſe are the accidents given by Mr. Coley himſelf, for the purpoſe of rectifying and diſplaying his nativity; and are therefore to be relied on. Had this eminent profeſſor of aſtrology underſtood the power of mundane aſpects and parallels, he would have avoided many abſurdities which appear in his works, and given leſs occaſion for cavil and exultation to the enemies of the ſcience.

Upon the whole, this nativity promiſes much on the ſcore of ingenuity and invention, and has many teſtimonies of conſequent reputation and eminence. Firſt, Mercury is direct, and ſwift of courſe, and in reception with the fortunate planet Venus, which argues a clear underſtanding and an upright judgment, and is the forerunner of reſpect and eſteem. Secondly, Mercury is in conjunction of Spica Virginis, an eminent and benign fixed ſtar, which adds both to his mental and worldly acquirements. Thirdly, we find Mercury applying to a ſextile configuration with Mars, in familiarity with another eminent fixed ſtar. This endows the native with a lively imagination, and an excellent invention. Fourthly, Mercury's triangular rays caſt to the aſcendant multiplies all theſe arguments, and ſtrengthens his title to public eſtimation and regard.

But here are other arguments in favour of worldly honour and eſteem. Firſt, becauſe the lord of the aſcendant is upon the very cuſp of the mid-

heaven, which ſcarcely ever fails to produce public fame and reputation; and, being in aſpect with an eminent fixed ſtar, ſhews that the native will never live in obſcurity or diſeſteem. Secondly, Jupiter, lord of the mid-heaven, is in his exaltation, in trine of the Sun, which is a moſt illuſtrious configuration. Beſides, the Sun being in reception of Mars proves that the native ſhall be in high eſteem with the public. Yet Saturn's malefic poſition in the mid-heaven muſt needs reduce the happy effects of the foregoing indulgent ſtars, and give ſome cauſe of vexation and diſappointment. Saturn being lord of the twelfth, the houſe of private enemies and impriſonment, and being poſited in the tenth, denotes many ſtrong and powerful enemies, and ſhews ſome reſtraint of liberty, with temporary loſs of honour and reputation; yet it nevertheleſs demonſtrates that honour ſhall eventually court him; and the malignity of his enemies be totally baffled.

The poſition of Mars in the ſeventh houſe, in oppoſition to the aſcendant, renders the native obnoxious to a particular deſcription of men; which is alſo confirmed by the Sun's platic quartile to the aſcendant, and the Moon's poſition in the ſeventh houſe, in platic quartile to the mid-heaven and to Saturn. But, ſince Mars and the Sun both befriend the native in a far more powerful degree than they afflict him, it is apparent that all conſequent diſputations will in the end turn out to the native's honour and advantage.

It is here worthy of remark, that this poſition of Mars in the ſeventh houſe is to be found in the nativities of three eminent profeſſors of the aſtral ſcience, who were all cotemporaries in the laſt age, namely, John Gadbury, William Lilly, and this native, Henry Coley; all of whom had ſtrong oppoſitions to encounter with their enemies; but they lived to triumph over them, and to ſee their extirpation from the land of the living.

JOHN PARTRIDGE, Profeſſor of Aſtrology.—Born in Lat. 51°. 32'.

♄	South Latitude	2	20
♃	South Latitude	1	9
♂	South Latitude	0	36
♀	South Latitude	1	28
☿	South Latitude	2	3
☽	North Latitude	2	18

This native roſe, from a very humble ſphere in life, to be phyſician to his majeſty James the Second, King of England. In the figure we find

find Mars in his exaltation, and in reception of Saturn, with the Moon in oppoſition to one, and in quartile to the other. This configuration gave the native a very acute and ſatirical turn of mind. The ſtrokes of his pen, when directed againſt his enemies, were poignant and ſevere; and, even when drawn in behalf of his friends, he could not help expoſing their inadvertencies, and attacking their weak ſide.

In the grand endowments of ſolid ſenſe and underſtanding, this native was in no reſpect deficient; as is apparent by the ſituation of Mercury with the Sun, in the ſcientific ſign Aquaries; both which ſignificators being in the trine of the Moon, and in ſextile of their diſpoſitor Saturn, afford the higheſt proofs of a mind enriched with every brilliant endowment.

That the native ſhould be rich and fortunate, and arrive to the pinnacle of honour and preferment in human life, is apparent, from the poſition of the two fortunate planets, which behold each other in a ſextile configuration, whilſt the Moon, lady of the eleventh houſe, the lord of the medium-cœli, and the vital Sun, behold each other in a benefic trine. But this nativity, having been already moſt compleatly inveſtigated, renders it unneceſſary for me to ſpeak of its directions.

GEORGE PARKER, Profeſſor of Aſtrology.—Born in Lat. 52°. N.

♄	North Latitude	1	25
♃	South Latitude	1	34
♂	North Latitude	1	9
☿	South Latitude	1	31
♀	South Latitude	1	48
☽	South Latitude	5	4
Right aſcenſion of ☉ is	- - -	228	30

Upon the aſcendant of this nativity, we find the ſign Leo, impedited by the evil and malignant planet Saturn, which exactly deſcribes the native's perſon. Mercury and Jupiter being in oppoſition to each other, yet both in their own dignities, is a remarkable proof that the native's wit and judgment ſhould be vitiated; but the Moon ſending a trine aſpect to Jupiter, and a ſextile to Mercury, corrects this evil influence, and aſſiſts the native greatly. Yet, as ſhe is diſpoſed of by Mars in the twelfth houſe, it declares his enemies would be very powerful, and but too ſucceſsful againſt him. His public enemies are deſcribed by Saturn and Mars; and the Moon perſonates his wife, and ſuch as he once eſteemed

eſteemed his friends. After ſuffering a deal of trouble and affliction, it is apparent he will overcome all, ſince the Sun, the lord of the aſcendant, is located in the aſcendant, and is the ſtrongeſt planet in the heavens, diſpoſing both of Mars and Saturn.

Between twenty-three and twenty-four years of age, the native entered into the ſtate of wedlock. This was effected by the planet Venus, directed to the ſextile of the aſcendant. When he was thirty-nine years and three months old, he was taken into cuſtody and accuſed with forming a dangerous plot, but was cleared of this charge, under the aſpect of the Sun directed to the oppoſition of Jupiter. The native wrote many ſmall tracts, and was cotemporary with Henry Coley and John Partridge, by whom he was mortally hated, and who threw out many wicked invectives againſt him. He died in the year 1742, aged eighty-eight years.

JAMES USHER, Biſhop of Armagh in Ireland.—Born in Lat. 53°.

♄	South Latitude	0	21
♃	North Latitude	0	32
♂	North Latitude	1	45
♀	North Latitude	2	47
☿	South Latitude	0	3
☽	South Latitude	1	6

Upon this horoſcope we have Gemini aſcending the eaſtern angle, with Mercury, its lord, in conjunction of Saturn, lord of the tenth and ninth houſes, who is poſited in the tenth, and caſts a friendly trine to the aſcendant, and to the planets Venus and Mars. Theſe are eminent arguments of ingenuity and learning; and ſhews the native will inherit a more than ordinary capacity and underſtanding, becauſe all the ſignificators, which govern the mental faculties, are in aereal ſigns.

Boetius, ſpeaking of this native, ſaith of him, that he excelled, with a moſt ſingular judgment, in the oriental languages, and in all abſtruſe and occult knowledge. Dr. Prideaux alſo ſtiles him a rich magazine of ſolid learning, poſſeſſed of all the curious ſpeculations of antiquity.

In this nativity we find ſix of the planets elevated above the earth, and Mercury, lord of the aſcendant, in the moſt exalted part of the heavens, in conjunction with the Moon's fortunate node, and the ſun-beams

occupying the cuſp of the ninth houſe; which, aſtrologically conſidered, portends the going out of his glory and fame into every part of the earth.

In the year 1600, and in the twentieth of his age, he was created a Maſter of Arts, a thing at that time of day not very common in either of the Univerſities; it was therefore a greater demonſtration of his piety and abilities, and of the reſpect paid him by the learned. He had then operating the Sun directed to the ſextile of Venus, and to the mid-heaven alſo. In the year 1612, aged thirty-two, he was promoted to the dignity of a Doctor in Divinity; at which time he had the mid-heaven directed to the ſextile of the Moon. In the year 1624, and in the forty-fourth year of his age, he was created Archbiſhop of Armagh, and Lord Primate of Ireland; though he was not put in poſſeſſion thereof till two years after. He had now the Sun directed to the ſextile rays of Jupiter, upon the cuſp of the eleventh houſe, in the higheſt dignities; and therefore moſt admirably ſignificant of theſe honourable preferments.

Soon after this native was created archbiſhop, he was afflicted with a violent fit of ſickneſs, which continued for nine months. The aſcendant was then directed to the oppoſition of the Sun, and the Sun to the quartile of Mars, which direction, falling in Cancer and Piſces, denotes it to be of the putrid kind, and of long continuance. In the year 1640, being ſixty years of age, he came to England, under the impulſive force of the mid-heaven directed to the quartile of the Moon, and the Part of Fortune to the ſextile of Mars. He was requeſted in the year 1647, by the benchers of Lincoln's Inn, to engage conſtantly to preach before them, and they would allow him a conſiderable maintenance; it being then the time of the Biſhops' perſecution. At this time he had the Moon directed to the ſextile of Jupiter, and the aſcendant to the trine of Venus.

In the year 1655, on the twenty-firſt day of March, this learned and pious churchman, after he had been ſeventy-five years a pilgrim on the earth, and fifty-five years a preacher or the goſpel, died at Ryegate in Surrey. The directions operating were, the aſcendant to the oppoſition of Saturn, lord of the eighth houſe of the nativity, and the Part of Fortune to the oppoſition of Mercury.

JAMES USHER Archbp of ARMAGH.
Born Jan^y 4 1581 3m. P.M.
1580

VASC-ERASMUS.
Born Oct^r 27. 16H. 30m. P.M.
1467.
From Originals.

MARTIN LUTHER.
Born Oct^r 22. 1H. 10m. P.M.
1483
From Originals.

BISHOP HALL.
Born July 1. 5H. AM.
1574.

VASCIT PHILIP MELANCTHON.
Born Feb^y 16. 7H. 6m. P.M.
1497.
From Originals.

NASC-ERASMUS, of Rotterdam, in Holland.
Elevation of the Pole 54°.

In this nativity we find Mercury and Venus poſited in the aſcendant; a proof of volubility and freedom of ſpeech; and being alſo in an airy ſign, beheld by a benefic trine of Jupiter from the ninth houſe, declares the native to be a perſon of ſtrong natural parts, and rich mental endowments.

The learned Cardan has ſhewn, that the reaſon why this native abandoned his own country, and undertook ſo many complex journeys, was becauſe the luminaries were in the dignities of Mars, with the lord of the ninth in the aſcendant, in the conjunction of the lady thereof, in a moveable ſign. The ſame ingenious author further obſerves, that while the mid-heaven was under the direction of the ſextile rays of Venus, the native enjoyed times of happineſs and reſt. This was moſt completely felt about the thirty-fourth year of his age, but its continuance was ſhort. His fifty-ſixth year proved a moſt dangerous and unſucceſsful one to him, for he then laboured under the baneful oppoſition of the Moon to Jupiter, ſtimulated by the quartile irradiation of Mars. He died in the ſeventieth year of his age.

MARTIN LUTHER.

The nativity of this celebrated divine is remarkable for having ſo many planets located in the ninth houſe. Saturn and Mercury are in conjunction, in the ſign Scorpio, which afford a ſtriking preſage of the zeal and perſeverance of his mind; whilſt the five planets in the ninth houſe declare his ſucceſs in religious controverſy. There is no need of pointing out the ſeveral directions; they are already conſidered by the ingenious Mr. Gadbury; and it will be no improper exerciſe for ſuch of my readers, who have an inclination to become further acquainted with this ſcience, to collect the ſeveral configurations and directions from the horoſcope in the annexed plate, and to equate and bring them up, according to the rules heretofore laid down.

The directions of all theſe nativities, which are ſelected from Mr. Gadbury, by way of example, are ſo eminent and remarkable, and the characters of the different natives ſo well known, that they compriſe a moſt excellent ſet of EXERCISES for any perſon deſirous of learning the aſtral ſcience.

BISHOP

BISHOP HALL.—Born under the elevation of the Pole of 53°.

♄	North Latitude	2	32
♃	South Latitude	0	39
♂	South Latitude	1	40
♀	South Latitude	3	19
☿	South Latitude	1	1
☽	North Latitude	0	8

The nativity of this eminent divine was found after his death in his pocket-book, written by his own hand; and, having been ſpoken of by many profeſſors of the ſcience, can receive but little new light from my pen.

This native was committed to the Tower, with eleven other biſhops, when in the ſixty-ſeventh year of his age. He had then operating the Dragon's Tail to the mid-heaven; and the continuance of his impriſonment is moſt aptly denoted by the teſtimony of the lord of the aſcendant in the twelfth houſe, which is the only light of time above the earth. His death happened in the eighty-ſecond year of his age, under the anaretic influence of a quartile of the Sun and Moon.

PHILIP MELANCTHON.—Born in Lat. 49°. 5'.

The horoſcope viſibly declares this native to be of ſhort ſtature, and of a hot and dry temperature; but the teſtimonies of his excellent endowments are many and various. Venus in conjunction of Saturn, Mars in conjunction of Jupiter; the Moon in the exaltation of Mercury; Mercury in the ſcientific ſign Aquaries; and Saturn and Venus in trine of Jupiter and Mars, are eminent arguments of the native's illuſtrious qualifications.

Hiſtory abundantly furniſhes us with inſtances of the native's aſtoniſhing proweſs in the occult and refined arts, and in the doctrine of philoſophy and divinity. He was a friend to every department of uſeful literature; and took great pains to purge aſtrology of its groſs and miſtaken parts, by tranſlating the books of Ptolomy out of the original Greek, into pure Latin; in his preface to which he has moſt learnedly and ably defended the ſcience from the laſh of its ignorant and uncandid oppoſers.

II ♀ 29 - 12
♄ 27 - 16
☿ 25 - 15 R
☉ 13 - 21
Aldebaran

GEORGE III.
Born May 24.ᵈ 7H. 5m. 10ˢ A.M. 1738.
Calculated by the ingenious Mr. Charles Brent.

GEORGE III. KING OF GREAT BRITAIN.

Were I to enter minutely into a calculation of this nativity, the event might be prejudical to many, and draw upon me the contempt of ſome and the reſentment of others. Therefore, ſince it is my wiſh to give offence to no party, nor to ſtir up the embers of ſtrife and diſſention amongſt the different orders of ſociety, I ſhall content myſelf with making only a few remarks, whereby the inquiſitive reader may be led to a contemplation of thoſe celeſtial influences, which ſtimulate and govern the actions and purſuits of men, and form the baſis of all ſublunary events.

Upon the oriental horiſon of this illuſtrious geniture, we find the noble and princely ſign Leo aſcending, with Caput Algol and the benefic Jupiter moſt glorioufly elevated in the medium-cœli, the houſe of kingly honour, eminence, and unbounded ſovereignty; which are true emblems of that univerſal joy, of that glory, honour, and renown, wherewith his majeſty moſt deſervedly aſcended the Britiſh throne. As to the ſignificators of temperature and diſpoſition, no geniture in the world ever produced more evident proofs of that rectitude of principle, of that benevolence of heart and mind, of that regard to juſtice, mercy, and truth, which aſſimilates the human nature to the divine image of the Deity, and forms the interior of a patriot king. That the reſult has uniformly kept pace with this deſignation, I am ſure no good man, nor any loyal ſubject, will deny.

The moſt remarkable circumſtance in this geniture is the congreſs formed in the eleventh houſe; which it is my wiſh that every ſcientific reader would pay particular regard to; and I have no doubt but they will readily make out, by the rules heretofore given, a pretty correct preſage of all the principal public occurrences that have happened during the preſent reign.

Whoever turns to page 166 of this work, will find it laid down as a fundamental principle in the rules of this ſcience, that, by the conſtitution of the eleventh houſe, that is, of the conſiguration formed therein, we deduce all enquiries concerning friends and friendſhip, hope, truſt, expectation, or deſire; alſo whatever relates to the fidelity or perfidiouſneſs of friends; or to the counſellers, adviſers, aſſociates, favourites, flatterers, or ſervants, of kings, princes, or men in power. The co-ſignificators of which are the Sun and Aquaries.

I would now with the planets in the eleventh houſe to be well conſidered, their tendency and deſignation aſcertained, and compared with the revolutional figures of the royal horoſcope, in thoſe years when any remarkable national event came to paſs. The reſult would not fail to enlighten the underſtandings of moſt men, and would lead the mind to an unalienable love and attachment to the perſon and family of our moſt gracious ſovereign.

For example; let the radical horoſcope, the revolutional figure for the thirty-eighth year of his majeſty's life, and the ſcheme of the American æra of independence, be projected by the ſide of each other; let the cardinal houſes be well conſidered, with the manner in which they aſpect or irradiate each other; and give the reſpective ſignificators, as their poſitions are found to vary, their true and genuine implication, according to the known and eſtabliſhed rules of the ſcience; and I am bold to ſay, that no one will be at a loſs to account for thoſe unhappy events, which have ſeldom been attributed to the right cauſe.

The NATIVITY of our Bleſſed LORD and SAVIOUR JESUS CHRIST.

Upon this nativity I ſhall not venture to give any opinion of my own. It was calculated above a century ago, by that learned and ingenious author, Dr. John Butler, chaplain to his Grace James, Duke of Ormond, and Rector of Litchborough, in the county and dioceſe of Litchfield. He publiſhed it in an 8vo volume, with a very learned and ingenious introduction, ſupported by a ſet of Chronological Tables, calculated to place the day and hour of our Saviour's birth at a certainty beyond diſpute; and, as that book has been many years out of print, and is now become very ſcarce and valuable, I have thought proper to copy that part of it, which contains the immediate calculation of this nativity, in the doctor's own words, without adding or diminiſhing from the text, or preſuming to introduce any remarks of my own.

The geniture or figure of birth, diſplayed in the annexed plate, was alſo projected by this learned author, which I have carefully cauſed to be engraved from a corrected copy in the doctor's own hand-writing; and I flatter myſelf that the reputation this tract hath acquired in every part of Europe, added to the reſpectability and eminence of its author, will not fail to render it highly acceptable to the reader. The following extract commences with page 256 of the doctor's book.

Of

— The —
Nativity of
JESUS CHRIST
25 of December
At Midnight
Julian Year 45
Dy Die Lab 31:50

at the Birth of Christ, the Eastern Astrologers Worshiped Jesus — Mat. Chap. 2.

Of the punctual Hour of the Day, and Minute of that Hour, whereon Jesus Christ *was born. Proved by the unerring Canons of Astrology.*

☽	North Latitude	0 46	Ob. Asc. Ascen.		181 41
♄	South Latitude	0 42	Ob. Desc.	☉	271 45
♃	North Latitude	1 17	Ob. Desc.	☽	31 55
♂	North Latitude	0 41	Ob. Desc.	♀	312 59
♀	South Latitude	1 1	Ob. Asc.	♃	189 40
☿	South Latitude	2 2	Ob. Asc.	⊕	294 7.
R. a M. H.		91 41			
R. a ☉		172 11			

That we may see at length how fitly the nativity of Jesus Christ suits with all passages of his life, as also with his qualities and complexion, we must first examine how the accidents of his life do lead us, as the star did the wise men, to the place, and to the moment of time when he was born. That Jesus was born at Bethlehem in Judea is past dispute. Here the longitude is commonly reputed different from the meridian of London in England (for which place our tables are framed) two hours and forty-six minutes: and by so much time, it seems, it is twelve of the clock at midnight with them sooner than it is with us. Here also, as is vulgarly esteemed, the pole is elevated at the neareſt guess some thirty-one degrees of north latitude and fifty minutes. Now the time, as it is esteemed vulgarly, whereon Christ was born under this elevation, was the night before Saturday the twenty-fifth of December, in the forty-fifth Julian year ending, at what time the cycle of the Sun was nine, and of the Moon was one, and, the year being bissextile, the dominical letters were D C.

Now, that out of this night we may procure the certain moment wherein the blessed birth happened, we must first ascertain the accidents of his life. And these are as follows: First, his birth happened in an honourable hour; for on that very night both angels and men came in to adore him. Secondly, in the same year, and about forty days after he was born, persecution followed, and he was forced, young as he was, to fly for his life into Egypt. Thirdly, his return out of Egypt happened at almost or about two years of age.

At twelve years of age, and some hundred days over, he had great honour and praise, by disputation with the doctors in the temple at Jerusalem. At about twenty-five years of age, according to Suida, he was constituted a priest of the order of the four and twenty. At six days

days over twenty-nine complete years, he was baptized, and entered into his miniſtry; and at the ſame time was forty days tempted of the devil; and at the end of thoſe was very contemptuouſly caſt out of Nazareth by the rude rabble there. Yet, notwithſtanding, he was very well received at Capernaum; and at Jeruſalem he drove the buyers and ſellers out of the temple. And laſtly, after three years and three months ſpent in his miniſtry, at thirty-two years of age and one hundred and one days over, he was crucified upon mount Calvary, between two thieves, and died upon the croſs. But, although he lived unto that time, yet it was about ſix months ſooner, at what time the Jews conſpired againſt him to kill him at the feaſt of tabernacles; and about two months before the time he was condemned by the Sanhedrim, and a proclamation was iſſued out to take him. Now may we find a time, according to the experienced rules of art, to ſuit fitly with all theſe accidents, and ſuch a time as ſhall aptly deſcribe him to be the man that in Holy Writ he is ſet forth to be. Then ſay I, It is a certain argument that both the day, hour, and minute, of Chriſt's birth are demonſtratively determined. And ſo will all acknowledge, who know what Aſtrology is.

The DIRECTIONS *of this* NATIVITY, *whereby the genethliacal Scheme of Birth is verified.*

	ob.	aſ.	a.	d.	ye.	d.	
☽ to Algol's Head	32	7	0	12	0	74	
M. H. to ☌ ☉	92	11	0	30	0	185	
☉ to □ ☽	294	45	0	38	0	235	The flight into Egypt.
☉ to ☿ with Lat.	271	36	0	7	0	40	
To ☿ without Lat.	272	42	0	57	0	352	
M. H. to ☌ ♀ at	93	8	1	27	1	172	
Aſc. to □ ☿	183	22	1	41	1	259	
☽ to Ter. ♀ ☌ ☉	34	7	2	12	2	85	The return.
☿ to Flying Vult. ♂	518	0	0	0	0	0	
♃ To Ter. ♃	192	43	3	3	3	35	
♃ To △ ♄	193	54	4	14	4	108	
☽ To △ ☉	36	45	4	30	4	206	He encreaſed in wiſdom
☽ To △ ☿	37	26	5	31	5	218	
♄ to △ ♀	0	0	0	0	0	0	
M. H. to □ ♂	97	33	5	52	5	348	Bodily diſtempers and worldly affronts.
Aſc. to ☌ ♂	188	5	6	24	6	180	
M. H. to □ ♃	99	22	7	41	7	331	

	ob.	af.	a.	d.	ye.	d.	
Aſc. to ♃	190	1	8	20	8	166	Healthful.
☽ to ☌	42	11	10	16	10	152	Slanders.
♃ to △ ♀	100	13	10	33	10	243	A pleaſant time.
♀ to ✶ ☽	324	57	11	58	12	52	
⊕ to △ ♃	306	15	12	6	12	119	
⊕ to △ without Lat.	0	0	12	14	12	138	The diſputation with the doctors.
Aſc. to △ ♄ Lat.	193	58	12	17	12	169	
Aſc. to △ ♃ without L.	194	1	12	20	12	193	
IXth to △ ♃ Lat.	73	46	12	5	12	101	
⊕ to △ ♄	310	3	15	56	16	61	Gain by old folks.
☽ to contra-an. ♀	48	37	16	42	16	345	His mother ill.
☉ to contra-an. ♃	289	5	17	20	17	214	His father ill.
IXth to ☌ ♄	77	43	16	8	16	98	Scorned at for his piety
♀ to ✶ ☉	329	22	16	23	16	278	Favour of great men.
Aſc. to △ ♀	200	24	18	43	18	361	A very pleaſant time.
⊕ to ☌ ♀	315	56	21	49	29	52	Honoured for his piety.
IXth to △ ♀	83	48	22	3	22	136	
☽ to □ ♀	54	23	22	28	22	291	Scorned and hated for the ſame.
♃ to ☍ ☽	212	35	22	55	23	92	
☽ to Rig.	56	10	24	15	24	221	Elected into the order of the four and twenty.
♀ to □ ♄	340	24	27	25	27	299	More hatred for religion
♃ to ✷ ☉	217	16	27	36	28	0	Reſpect from great men for his religion.
☉ to □ ☽	99	45	28	0	28	150	Great affronts from all ſorts of people for his piety and religion.
♃ to ✶ ☿	218	19	28	39	29	25	In Jan. he was baptized, and began to preach, and was ſucceſsful in gathering diſciples.
M. H. to □ ☽	120	8	28	27	28	317	He was by means of this affronted and caſt out at Nazareth.
IXth to Caſtor's Head at	0	0	0	0	29	&c.	His miniſtry.
☽ to the Goat	63	7	31	12	31	240	
M. H. to Hydr. Heart	122	37	31	12			
Aſc. to ☍ ☽	212	50	31	9	31	222	He was crucified.
Aſc. to ☍ ☽ with Lat.	213	2	31	21	0	296	

Now, as Chriſt had a real body made of a woman, ſo was it no ſmall argument of the reality of his body, in that it ſubmitted unto the impreſſions of the ſtars, as do thoſe of other men. For, although the immeaſurable power of the ſpirit upon him was able to ſway, and did ſway, all impreſſions and inclinations of nature, ſo as to ſubject them abſolutely to be obedient in all things unto the commands of his holy will, yet were not only the complexion of his body, but alſo the qualities of his mind and affections, much of them preſſed and wrought by the power of the heavens. Only excepted, that, whereas he was born without ſin. neither evil planets, nor evil aſpects of any planet, could have that advantage to work upon his manners and diſpoſition, ſo as to incline them with ſuch command as they do by others. But, as for the accidents of his life, in reſpect of what befel him, as for matter of love or hatred, ſickneſs and health, life and death, the ſtars had as free and full liberty and power over him and his body as upon any the leaſt of us. For, though he was able, by ſpecial authority of his own, to force the utmoſt power of ſtars, or heaven, yet herein lay his humility, and his charity in that humility, in that he voluntarily ſubmitted his body to be ordered according to the courſe of nature: whereas, would he himſelf, he might have made it lord over all that nature could do. And, though he raiſed the bodies of others from death unto life, in deſpite of nature, yet would he ſuffer his own body quietly to be ordered even as nature would herſelf.

Theſe things conſidered, next come we to meaſure the time between the accidents of life and time of birth. It is obſerved, and a continued experience has verified it according to obſervation, that, (unleſs ſome ſpecial interruption intervene, either by a tranſit, or ſome revolution utterly croſſing,) from the ſignificator in a nativity unto the promittor of the thing ſignified, there are ordinarily ſo many times one year and five days and eight hours as there are degrees either of aſcenſion or deſcenſion between the one and the other. The moſt remarkable accident of Chriſt's life, that we can work by, was his death, and the manner of it, at the end of thirty-two years and an hundred and one days after birth. To bring this about, the Moon claims nothing as a ſignificator. The Sun ſeems to proffer ſomething, as if his direction to the quartile of the Moon ſhould proclaim ſome ſuch matter. But then the Sun, being neither giver of life, nor years, in this nocturnal geniture, could hardly have ſuffered ſo fatally by that quartile, that death ſhould follow upon it. And beſides, upon examination it appears, that that direction came up ſome years too ſoon for thirty-two, in what poſition ſoever placed under ground. And now therefore, if neither Sun nor Moon were actors

actors in ſuffering that direful fate, then it follows, that certainly it was that point of the ſcheme which is called the aſcendant. And, if ſo, then it was either the direction of the aſcendant to the quartile of the Sun, (and thus it was a ten-o'clock birth, and Virgo aſcended,) or it was the oppoſition of Mars a quarter of an hour after the ſame, Virgo aſcending. Or it was the oppoſition of the Moon, and then was it a midnight birth, and Libra aſcended; or it was to the oppoſition of Saturn, and then was it a birth at almoſt half an hour paſt eight in the morning, and Scorpio aſcended. But, of all theſe, none will ſuit with a deſcription of the perſon, and the other accidents of his life, but that of the aſcendant to the conjunction of the Moon. The Moon at midnight of the fore-mentioned day, we find in the ſign Aries, and in twenty-eight degrees and one minute thereof, upon the cuſp of that which is called the eighth houſe of heaven, or the houſe of death; and there is ſhe nearly in conjunction with a ſtar called Algol's Head, which is one of the moſt malignant ſtars in the whole heavens, and diſpoſed of by the planet Mars, who is the lord of the native's profeſſed enemies, and alſo of death. The Moon of herſelf is naturally a giver of life; but, as ſhe ſits upon the houſe of death, and diſpoſed of as ſhe is, ſhe ſignifies a murderer: and, as for the perſons ſhe ſhould work it by, they are the common people and rude rabble, and eſpecially women, whom ſhe naturally repreſents; and the chief magiſtrate of the place, whom alſo ſhe repreſents by accident, by virtue of that dominion which ſhe claims in the tenth houſe, or houſe of honour and dignity; and ſome eccleſiaſtical perſon or perſons by accident alſo, as ſhe hath dominion in the ninth houſe; and laſtly ſoldiers, as ſhe is diſpoſed of by Mars, who naturally ſignifies men of war. Now, all theſe ſignifications ſo fitly meeting in the Moon, and ſhe ſo aptly repreſenting a murderer, how readily ſtands ſhe to ſerve our purpoſe? To proceed therefore, we find the oblique deſcenſion of her in that degree and minute to be two hundred and twelve degrees and fifty minutes: but, if we conſider her latitude, the oblique deſcenſion will prove two hundred and thirteen degrees and two minutes. Next, as for the time when the aſcendant fell under this direful direction, we muſt allow ſome time for the ſtrength of conſtitution, which this ſcheme, poſited after this manner, ſeems to afford the native to wreſtle with the ſtrokes of death. For Jupiter, a benevolent planet, lord of the ſixth, and in the aſcendant, together with his antiſcions in the ſixth, and a ſextile of the Sun lighting there alſo, beſpeaks an healthful body, and of a very ſtrong conſtitution, and luſtily able to ſtruggle with its deſtinies, before death ſhall get the maſtery. Wherefore we muſt not lay the aſcendant under the oppoſition of the Moon juſt upon the very day of death, but ſome weeks before it. And, ſeeing we have an oppoſition, firſt without latitude,

tude, and then with it; we therefore lay the introduction to this fatal murder firſt, under the oppoſition with latitude, and that was at the end of the feaſt of tabernacles, at what time the Jews firſt took up ſtones to ſtone him; but he eſcaped away and hid himſelf; and this was ſomewhat before the very day of his nativity, at the end of thirty-two years of age, on the 17th of October. Now, between the oppoſition without and the oppoſition with latitude are ſeventy-four days, and, during this time, Jeſus was ſtruggling with croſs fates, and preached privately in Judea, and not openly, for fear of the Jews: only, at the feaſt of dedication, he appeared in vindication of the blind man, unto whom he had given ſight. But at that feaſt again, took they up ſtones to kill him, and they ſought to take him, but he eſcaped, and went away beyond Jordan: and this was about the twenty-fifth of December, at thirty-two years of age: and yet he lived three months ſtill after that, but then it was as a wounded perſon, all the while debating with death: for the Jews condemned him to die abſolutely, and laid wait to take him, and he could not walk openly among them any more, but went away beyond Jordan unto Ephraim on the borders of the wilderneſs. To meaſure therefore from the 17th of October, or the morrow after the feaſt of tabernacles, in the thirty-ſecond year of Chriſt almoſt ended, unto the day of his nativity, there are thirty-one years and two hundred and ninety-ſeven days; which, turned into degrees after the rate of one year five days and eight hours to a degree, (as was before mentioned,) do make thirty-one degrees and twenty-one minutes; and theſe again ſubtracted from the oblique aſcenſion of the Moon's oppoſition in Libra, twenty-one degrees one minute, which is two hundred and thirteen degrees two minutes, do make the oblique aſcenſion of the aſcendant to be an hundred and eighty-one degrees forty-one minutes; and that oblique aſcenſion, under the elevation of thirty-one degrees and fifty minutes, places the aſcendant of this nativity in the ſign Libra, one degree twenty-ſix minutes; and from the oblique aſcenſion of the aſcendant, one hundred and eighty-one degrees forty-nine minutes, ſubtracting ninety degrees, the right aſcenſion of the mid-heaven muſt be ninety-one degrees and forty-one minutes; and the right aſcenſion placeth the mid-heaven itſelf in the ſign Cancer, in one degree thirty-three minutes: and now again ſubtract we the right aſcenſion of the Sun, which is two hundred and ſeventy-two degrees eleven minutes, from the right aſcenſion of the mid-heaven, which is ninety-one degrees forty-one minutes; or, becauſe that cannot be, from four-hundred and fifty-one degrees forty-one minutes, which is the addition of the whole circle of heaven to the right aſcenſion of the mid-heaven; and the remainder is one hundred and ſeventy-nine degrees thirty minutes of the equator, which, turned into

into the hours and minutes of the day, do beſpeak the equal time of Chriſt's birth to have happened at eleven hours and fifty-eight minutes in the afternoon, to which add one minute and thirty-eight ſeconds for equation, and the apparent time was eleven hours, fifty-nine minutes, and thirty-eight ſeconds, which comes within a ſmall matter of midnight.

The time of birth being thus propoſed, I calculate all the planets' places for this time, and direct them to their promittors, together with the aſcendant, mid-heaven, and the ninth houſe, in order to ſuit all other accidents according to this time, that by ſo doing, it may appear, according to the moſt experienced rules of Aſtrology, we have laid the time right. And, this being done, it appears firſt, that the angels adored him; but this act had nothing of the ſtars in it. Then, that the ſhepherds came and publiſhed his glory all over the city, and in thirteen days after came the wiſe men from the eaſt to worſhip him; all theſe were nothing elſe but the fruit of famous tranſits at the time of birth: the Virgin's Spike and Arcturus (two great and noble ſtars) were newly gone by, and, being within orbs, drew after them a goodly grace of honour and glory; Jupiter, who accidentally repreſented ſhepherds, as he was lord of the ſixth houſe, and naturally ſignified religious perſons, or royal prieſts, being in the aſcendant, and near upon the cuſp, was much about riſing, when the ſhepherds entered, and drew the prieſtly kings out of the eaſt to viſit him; the Sun, alſo a ſignificator of honour, was in conjunction of Venus, who had dignity in the ninth, and with the Flying Vulture, a royal ſtar, and the famous Fomahaut, by latitude, was within his beams, with theſe tranſits accompanying theſe honourable directions. Firſt, the mid-heaven was nearly coming up to the oppoſition of the Sun, and the aſcendant was haſtening after to the quartile of the ſame, and the Moon alſo was nearly in trine of the Sun and Mercury. But that which came neareſt to the purpoſe, was the Moon to the conjunction of Algol's Head, at the end of twelve days and odd hours, at the very point of time as the wiſe men came. Now this Algol's Head is a ſtar of Saturn and Mercury, and, though it be a miſchievous ſtar, yet it ſignifies preferment, though it be with a vengeance at the heels of it. And ſo it was here. For, the wiſe men being gone, Herod, by means of their coming, plotted Chriſt's murder, and forced him to flight. The mid-heaven alſo to the oppoſition, and the aſcendant to the quartile, of the Sun, acted much ſuch another part as Algol's Head did, giving honour of kings, though not without a miſchief in it. But the Moon in trine of the Sun and Mercury, argued an aptneſs of the native to be honoured both of kings and prieſts, and of all men in authority.

And, although these directions came not up until above four years after, yet, by means of good transits, the virtue of them distilled so long before.

After these things followed the flight into Egypt within the first year. And this needed no more anger than from what directions gave the preceding honour, as the Moon to Algol's Head, at thirteen days of age; for here Herod plotted his murder; and the mid-heaven to the opposition of the Sun at an hundred and eighty-five days end; and the ascendant to the quartile of the Sun at two hundred and two days end; and to Mercury at three hundred and fifty-two days end; for all this while was our Lord and blessed Saviour a stranger in a strange land, and an exile who durst not shew his head, neither durst his parents be known, who, or what, or where, he was. The Sun to Mercury as lord of the twelfth house, signifies a mischief by means of private enemies; and yet, as Mercury was also lord of the ninth, it helped out of that mischief, by means of a long journey: with these also accompanied the Part of Fortune to a quartile of the Moon at two hundred and ninety-three days end; and the mid-heaven to the opposition of Mercury at one year's end and one hundred seventy-two days: and lastly, the ascendant to the quartile of Mercury at one year's end and two hundred and fifty-nine days, (for so long continued our Saviour's exile in Egypt.) But when the Moon entered into terms of Venus in Taurus ♌ ♌, at two years of age and eighty-five days, he returned home with his parents. At much about the same time came Mercury also to the Flying Vulture, and Jupiter to the North Balance with latitude: and at three years and thirty-five days came Jupiter into his own terms: and at four years and one hundred and eight days, he came to a trine of Saturn: and a little after, at four years and two hundred and six days, the Moon gained the trine of the Sun: and in the next year, at five years of age and two hundred and eighteen days, she attained to the trine of Mercury: and Saturn about the same time came to a trine of Venus. Now during these times Jesus greatly increased in wisdom; and, besides that, the grace of God was mightily upon him. These things aptly furthered his great parts by nature. But at five years and three hundred and forty-eight days, the mid-heaven occurred to the quartile of Mars: and at six years and one hundred and eighty days, the ascendant was encountered with an opposition of the same. And during these times Jesus wanted not his share of worldly crosses: he seems to have been laden with quarrelsome affronts, and likely enough it is that his parents suffered in the same way, if they escaped sickness, and losses in estate and honour. Moreover, our

Saviour ſeems to have taſted ſome ſharp diſtempers of body himſelf, or elſe very great wrongs from his enemies. But ſtorms laſt not for ever: the aſcendant came to Jupiter, at eight years and one hundred and ſixty-ſix days, and gave him a very halcion time; and he then lived in much love of neighbours and kindred. At ten years and one hundred and fifty-two days, he ſeems to have encountered ſome more misfortunes, or elſe his mother bore them for him, by means of the Moon falling into the pit called the Dragon's Tail. But within three months after, Jūpiter coming to the trine of Venus gave him great content, whether it was by means of ſome long journey, or by reaſon of the pleaſure of his ſtudies, or both: however, it was a pleaſant time, and the world ſeemed to welcome him with ſome of her favours.

But, at the end of twelve years and ſome three months over, he began to be taken notice of publicly for his great wiſdom and parts. Venus was lady of his aſcendant, and alſo principal ſignificatrix of his mind. And, at twelve years of age and fifty-two days over, ſhe came, by direction, to a ſextile of the Moon's diſpoſitreſs of his honour and advancement; which is as much as to ſay, ſhe introduced him into a lucky vein of being well accepted for his inward worth, and excellency of mind, amongſt men of power and authority. And the virtue of this good direction wrought to purpoſe at the paſſover after, at the latter end of March, about ſome forty-one days after the direction happened. But, from this time forward there is no queſtion but he was every year more and more noted and admired, as he came yearly up to the feaſt at Jeruſalem; for at twelve years and one hundred and nineteen days, which was but a month after the paſſover, the Part of Fortune came to a trine of Jupiter with latitude, and about ſeventy-four days after to the ſame trine without latitude; and at one hundred and ſixty-nine days over twelve years came up the aſcendant to a trine of Saturn out of the ninth houſe, with latitude, and eighteen days after that to the ſame trine without latitude; and theſe are directions to credit a man, amongſt ancient and ſerious people, to purpoſe. But that which hit neareſt upon the very week, was the direction of the ninth houſe unto the trine of Jupiter with latitude, which happened at the end of twelve years and one hundred and one days, at the beginning of April, preſently after the paſſover week; and the ſame houſe came to the ſame trine without latitude about forty days after. But, however, the directions preceding and ſucceeding all concurred to heap up the glory of his diſputation amongſt the doctors. Alſo theſe kind of directions made him dextrous at his calling too, in building houſes, and following his buſineſs ſeriouſly, and with great induſtry. After this, at over ſixteen, came the Part of Fortune to a trine

trine of Saturn, and that was good, but had relation chiefly to his trade, as if he had gained by it in dealing with elderly people. But, half a year after, the Moon to the contra-antiſcion of Venus was ill either to himſelf or his mother, or both. And at over ſeventeen, the Sun fell under the contra-antiſcions of Saturn, and that ſeems to have been grievous to his reputed father. At ſixteen years and ninety-eight days, the ninth houſe came up to the body of Saturn, and then no doubt but he was ſufficiently unhappy in his grave councils, and met with more deriſion than attention. And they, who formerly had applauded his wiſdom, would be apt enough now to betray their own weakneſs, in changing their ſtory. Yet Venus coming to the ſextile of the Sun a little after, in the ſame year, would not only allay much of that diſparagement, but alſo would be raiſing friends amongſt the more prudent ſort of powerful perſons, to reprove and bridle the licentious lips of envious and upbraiding tongues. At eighteen years and three hundred and ſixty-one days the aſcendant happened upon the trine of Venus, and that was an healthful and a pleaſant time, cleaving off the reproaches of Saturn and envious people. At twenty-two entering, the Part of Fortune fell into the lap of Venus in the fifth houſe, and rendered a time religiouſly pleaſant. And at twenty-two years and one hundred and thirty-ſix days, the ninth houſe got out of the clutches of envious Saturn, and encountered a trine of Venus, in the ſign Gemini. And this undoubtedly gave him to ſee ſavory fruits of his good counſels and grave admonition, to his great contentment. But towards the year ending, the Moon coming to the quartile of Venus interrupted the pleaſant progreſs of his affairs. And, in the twenty-third year well entered, he met with great oppoſition, as well from men in power as the rabble rout, greatly gainſaying his ſacred converſation, and this by means of Jupiter falling under the Moon's oppoſition, both without and with latitude. At twenty-four years of age, and two hundred and twenty-one days, came the Moon to the Foot of Orion, called Rigel; at what time might poſſibly happen the preferment into the order of the twenty-four, ſpoken of by Suidas, of which he never made either profit, uſe, or advantage, unleſs it were by accident. At twenty-ſeven years and two hundred and ninety-nine days, Venus, lady of the aſcendant and of the ninth houſe, fell upon the quartile of Saturn; and this adminiſtered unto him much of trouble in his mind, and of diſturbances in his religious courſes, and perhaps he met with ſome wrong in his journey to the feaſt of tabernacles, which happened about that time. At twenty-eight years of age complete, Jupiter attained unto the ſextile of the Sun, and that adminiſtered unto him much favour and reſpect from perſons of quality. But, the Sun being at the very bottom of heaven, it ſeems as if all his

greateſt

greateſt friends favoured him, like Nicodemus, more by night than by day. At one hundred and fifty-days over twenty-eight years of age, the Sun was encountered with the quartile of the Moon. And at this time, John the Baptiſt entering into his miniſtry, Jeſus ſeems greatly to have been affronted by people of all ſorts. It is very likely too, that old Joſeph, his reputed father, yielded unto nature about this time; for the Sun ſignifies parents. And whether it was when Saturn came to the oppoſition of the Sun, or now that the Sun came to the quartile of the Moon, we cannot certainly determine; but much about this time it ſeems he left this world for a better.

But now the time draws on, wherein Jeſus began to ſhew himſelf the Chriſt; at this time he was baptized of John in Jordan. His kingdom was not of this world, neither was his miniſtry of men, or by man's authority, but by a divine commiſſion; and by ſigns and wonders it was confirmed to be ſo. We cannot therefore expect influence from heaven for thoſe things which come from beyond heaven; nor muſt we expect a commiſſion from the ſtars for thoſe miracles he acted as it were in defiance of them. And, as for what applauſe followed by virtue of thoſe miracles, we muſt look for the reaſon of it from the Maker of all things, rather than from any created being, though never ſo much exceeding all other creatures. Yet, for ſuch natural paſſages as amongſt his miracles did accrue, we cannot debar nature from executing her office ſtill. And firſt, we find him thruſt out contemptuouſly and rudely at Nazareth, with great ſcorn unto his ſacred function; inſomuch that he removed his houſehold upon it unto Capernaum. And in this great affront his mother alſo ſeemed not a little concerned, who removed her houſehold with him, from where ſhe ſeems to have been bred and born, unto a ſtrange place. Now at this time the mid-heaven, the ſignificator of Chriſt's honour and his mother's perſon, came to quartile of the Moon, which very fitly ſuits with all that happened. The direction came up on the ſixth of November, before the twenty-eighth year was quite run out. But the malice of it laſted not only unto this affront, which was acted in March of the twenty-ninth year entered, but alſo unto the paſſover following, whereat it encountered him with much ſnarling of the Jews againſt him, notwithſtanding all his great miracles. And worſe would it have proved, but that Jupiter, the natural ſignificator of his divine function, came to a trine of Mercury, lord of the ninth. This happened at twenty-five days over twenty-nine years of age, much about the time of his entrance into his miniſtry. And, though we cannot ſay it purchaſed him that honour, yet we can ſafely ſay that it prompted his human mind to comply with his divine commiſſion, and facilitated

his reception, wherever he came, with a kind of luck whereby this direction ſerved him; for God Almighty makes uſe of natural inſtruments to ſerve divine ends. About this time alſo came the ninth houſe to the mercurial ſtar called Caſtor's Head; and the Moon encountered the She-Goat, a ſtar of Mercury and Mars, at thirty-one years and two hundred and forty days. Theſe are ſtars furthering ingenuity, though not without troubles, and ſuch our Saviour wanted not for all the time of his miniſtration, until finally his aſcendant came to the oppoſition of the Moon, firſt without latitude, at the end of thirty-one years and two hundred and twenty-two days, about the beginning of Auguſt; at which time his neighbours of Capernaum began to deride his miniſtry, and the phariſees, complying with the Herodians, made him fly the country; and, laſtly, the aſcendant to the oppoſition of the Moon, with latitude, the aſcendant being in this figure Hyleg, and the Moon, which is Anareta, being on the eighth houſe, deprived him of life, as God had appointed it from the beginning.

Thus we find the time propoſed moſt fitly agreeing with all paſſages of his life, as well as with his death. But yet, to make ſure work, we uſed to compare the ſituation of a ſcheme alſo with the complexion and qualities of the native, before we determine that the time is right. And now to do as much by this; Firſt, it is apparent, by the known rules of art, that Jeſus was born, as it were purpoſely, and that ſo as may be diſcerned by the ſcheme of his nativity, to die a violent death. For here we have the Moon, the common ſignificatrix of life, ſitting upon the very brink of death, upon the cuſp of the eighth houſe: then we find her in conjunction with the very worſt of malignant ſtars, Algol's Head. The Dragon's Tail alſo is in the eighth, in leſs than ten degrees of her: but as bad or worſe than all this is Mars in oppoſition unto Jupiter in the aſcendant, and in quartile with Mercury, and the Sun in the fourth. It is true indeed, that, as he came into the world without ſin, ſo was he above the power of any influence of heaven to be able to hurt him: and, had he not voluntarily ſubmitted unto the infirmities of nature, they had never in the leaſt reached him. And, though the ſignificator of his enemies was ſtronger and better armed than ſuch ſtars were which ſtood for his own perſon, yet was his armour of innocency eaſily able to have overturned all, would he have uſed his mighty power to that purpoſe: but ſuch was his love, that he was willing to lay down his life; and therefore he put himſelf under the power of nature, in order to loſe his life. And hence, by means of this ſubmiſſion, Mars, in the houſe of enmity, and lord thereof, being ſtronger than Venus, lady of the houſe of life, or Jupiter, her aſſociate, placed in

that

that houſe, rendered his enemies too ſtrong for him, and backed them with bitter choler, ſpite, and malice, againſt him. The Sun being in quartile to Jupiter and the aſcendant inclined the magiſtrates averſe both to his perſon and doctrine. Mercury alſo in the ſame quartile inclined the churchmen with the ſame averſeneſs to oppoſe him. Mars in oppoſition exaſperated the men of war. And, laſtly, the Moon ſtirred up the vulgar people to cry him down. And all this might have been as aptly foreſeen by his nativity when he entered the world, as it is now known by his life paſt it.

But, to purſue the reſidue of his perſon, as well as his condition, we find, that Libra, a cardinal ſign, of temper ſanguine, hot, and moiſt, aſcends; and Jupiter is in the aſcendant, near the point of riſing, at birth, in a ſign of his own nature; and Venus, lady of the aſcendant, in Aquaries, a ſanguine ſign too, do all beſpeak him to have been a perſon of a very level temper, and of a ſanguine complexion. Venus, in trine to the aſcendant in the houſe of Saturn, endued him with a ſober chearfulneſs in his converſation: and Saturn, being in a ſanguine ſign too, in trine of Jupiter in the aſcendant, from the ninth, or houſe of ingenuity and religion, and in dignities of Mercury, with a reception from him in the higheſt degree by houſe, infuſes melancholy into his temper, to mingle with his mirth, and feeds him with a mighty ſtrength of judgment and deep policy: alſo he diſtils gravity and ſerioufneſs into all his actions: and thus Jupiter, Venus, and Saturn, are moſt excellently united in him with the beſt of aſpects. To theſe we may add the Moon, with almoſt a moiety of her orbs in her exaltation, and there in trine of the Sun and Mercury. The Moon is the great miſtreſs of life and nature, and the trines to the Moon do gratify the native, even as ſtrongly as if they fell into the aſcendant. Hence therefore is he armed from the Sun with a majeſtic and a royal preſence, and princely prudence, and from Mercury with as great a ſtock of ready wit and ingenuity; and the rather, for that he is in Cazimi with the Sun, and in ſo ſtrong reception with Saturn. Together with all theſe we find Spica Virginis, a ſtar of the ſweeteſt influence of all the fixed ſtars in heaven, ſitting near upon the cuſp aſcending, and there admirably qualifying for oratory, and that eſpecially in divinity. Arcturus is there too, a princely ſtar, that adminiſters courage and a noble reſolution. Laſtly, the ſign of juſtice aſcends; and Jupiter, the planet of religion, joins with it, to increaſe devotion; and Saturn and Venus are both in ſigns humane and temperate. And, although our Saviour was not as common people are, yet had nature wonderfully ſet him out.

But

But yet there are exceptions. For the Moon is ill placed on the eighth, in an unlucky houſe, and joined with a peeviſh and crabbed ſtar, which muſt needs infect her to be ſo too. Mars is alſo ſet as if he ſtood on purpoſe to deſtroy a nativity, ſo oppoſite to Jupiter and the aſcendant; and, being ſtrong withal, he ſeems to threaten all good qualities with an overturn, infuſing nothing but choler, fury, and malice, into the native's head; and, diſpoſing of the Moon, he makes her ſo too. The Sun alſo looks upon the cuſp aſcending with an evil quadrature, and ſuch as uſually renders a native much more proud and ambitious than either wiſe or good-natured; and Mercury, complying with the Sun in the ſame aſpect, endeavours to incline this ſacred perſon unto theſt and lies. But what now? Was Jeſus thus? or rather does not Aſtrology belie him? No, neither. For, had theſe evil aſpects courted an ordinary nature unto evil manners naturally, yet would they not have forced him, but he might have overcome all by gracious habits. But much more than this muſt we note in our ever bleſſed Lord Jeſus Chriſt. For, he being born without ſin in his nature, the heavens wrought upon him in a different manner of influence from what they do by us. For, ſeeing that the divine nature withheld ſo as no ſin could enter him, the worſt of aſpects (for matter of qualification) became the beſt unto him. For, by how much an oppoſition or a quartile is a ſtronger aſpect than a ſextile or a trine, may they be withheld from doing harm, they muſt needs aſpect with the greateſt force of their virtues. And thus the oppoſition of Mars, falling into his head, inſtead of fury and choler, adminiſtered the greater courage in him; and the quartile of the Sun, inſtead of pride and ambition, gave him the greater majeſty and wiſdom; and the quartile of Mercury, inſtead of lies, gave him the more prodigious wit; and the Moon with Algol's Head, inſtead of peeviſh, made him the more ſoberly wiſe. But we muſt remember, that, though Chriſt could not ſin, yet die he could. And thus therefore oppoſitions and trines, and evil ſtars, were as evil to him, in as high a degree, as unto the meaneſt of us; for in all things, ſaving ſin, was he as we are.

Next proceed we to his body, only ſo as to compare that too with our ſcheme. For, though we have no proof either of his ſtature or his colour, yet may we be bold to ſay (by rules of art) that, Libra aſcending, he was ſomewhat inclined to be tall and fair: but this was the leſs, few degrees of that ſign aſcending, and they in terms of Saturn: elſe is there nothing to except, unleſs the Moon, with Algol's Head, may be thought ſomewhat to abate from both. Jupiter in the aſcendant gives an handſome brown feature, hinders not tallneſs, but beſpeaks ſome-

ſomewhat of corpulency; ſave that the trine of Venus from Aquaries, and of Saturn out of Gemini, forbid it. Jupiter gives a grey eye, and ſo ſays Venus; and none can hinder. Venus would gladly beautify the face, by virtue of her intereſt in Libra, and ſomething ſhe does to render it rather fair than brown. And Saturn from Gemini can hinder but very little: he would pacify, but Jupiter and Venus are reſolved to keep up the complexion. Jupiter adminiſters brown hair, and Venus renders flaxen: but Saturn would have it black; whence, between both, Jupiter carries it. Venus gives a pleaſant ſmiling look, and Jupiter denies it: not only Saturn attempts it, but prevails no farther than to render it ſoberly ſerious withal. The Sun and Mercury, with their trines ſo near the cuſp, would fain deform; but Mercury in the Sun has not power to darken. The Sun would only caſt ſwarth; but Jupiter in the aſcendant on one ſide, and the Virgin's Spike upon it on the other ſide, utterly defeat him. Mars in oppoſition would fain ſcarify, but Jupiter ſo near deſies him alſo. Laſtly, the Moon between Aries and Taurus contraries but little from the reſt; eſpecially for that ſhe has ſo few rays falling into her boſom. The moſt ſhe does in oppoſition is only, by means of her place in the eighth, and being with Algol's Head ſo near, to wrinkle the brows, and furrow or dent the cheeks, but ſhe wants ſtrength. Jupiter would have a full face, and Venus a round; and ſo it is concluded between them, ſaving that Saturn and the Moon together prevail ſo far as to render it oval.

Laſtly, as for his other fortunes. Firſt, we find his aſcendant and ſixth well fitted with a very ſtrong conſtitution for health. The oppoſition of Mars and a quartile of the Sun and Mercury prevail to harm more by unlucky outward accidents than by inward diſtempers. His houſe of wealth is directly oppoſed by the Moon, lady of the mid-heaven, and is not defended with any good aſpect. His mid-heaven is alſo very low, the lady of it is ſufficiently afflicted; and, being incumbered with a croud of evil aſpects, had no help of either of the fortunes. No, the Sun in the very bottom of heaven beſpeaks that this native's kingdom is not of this world. Only the Moon upon the houſe of death, after void of courſe, is in trine of the Sun, which ſhews to promiſe his kingdom by death, or after it. His ninth houſe has the help of both the fortunes. But Saturn bodily dwells there, and hatcheth a world of croſſes, both in his functions and long journeys. His houſe of enmity is very ſtrong, with the lord thereof therein, and at home in his own houſe, and threatens malice enough. The eighth houſe is even malignant too; and ſo is the lord of the twelfth, ſaving his trine to the Moon. But this lord is under the Sun, weakens his force,

and diſcovers all his private ſpleen. His fifth houſe, or houſe of children, has a rich jewel in it; and the lord thereof looks pleaſingly upon the aſcendant, which argues he had a body ſufficiently fruitful for iſſue. The lady of the aſcendant alſo in the houſe of children, in trine to the lord of that houſe, and both in good aſpect unto the houſe of marriage and the lord thereof, do all agree, that it was no hindrance in nature which rendered our Saviour wifeleſs or childleſs. No, it was his great gravity, or rather his infinite piety, which, for the Kingdom of Heaven's ſake, led him to deſpiſe nature's treaſures. And hence came it to paſs, that the church was his only ſpouſe; and by her hath he a numberleſs offspring of holy ſaints unto his children. The lord of the ſixth is in the aſcendant, and the great fortune; whence were his ſervants true and faithful: only one Judas (when that ſixth houſe came by direction to the quartile of Mercury, in the entrance of the houſe of enmity) fatally betrayed him; and the reſt, more out of fear than for falſehood, forſook him and fled. The lord of the ninth is very low, and in quartile of Jupiter and Mars, and in conjunction of the twelfth lord; which rendered his friends men of low condition, and befriending him more by night than by day; as being terrified by mighty enemies, and not encouraged by any outward promiſes from himſelf. The lord of the third is in the houſe of enmity, and thence rendered moſt of his neighbours bitter and envious, eſpecially during the times of ill directions operating. Only Jupiter, having dignities in that houſe, made other of his neighbours and kindred as much his friends. Laſtly, the Sun upon the cuſp of the fourth ſeems fitly to comply with that ſovereignty which attended upon his death, and appeared by his reſurrection and aſcenſion into heaven. When Adam entered, the Sun was juſt upon ſetting. When Jeſus Chriſt was incarnated, he was juſt upon riſing. But at his birth he was at loweſt. For it was not the Sun of the Firmament, but the Sun of Righteouſneſs, who aroſe with healing in his wings.

Such was the fortune of our Saviour, during his progreſs through this earthly world; and ſuch were the qualities of his humane mind, even as the ſtars deſcribe them; and ſuch were the complexion of his humane body, juſt as the heavens do beſpeak. And, though we never ſaw his perſon, or any true portraiture of the ſame, yet know we, by the ſcheme of his nativity, that he was a man ſomewhat tall of ſtature, of an oval face, of a ruddy complexion, between fair and brown, of a grey eye, yet ſharp and piercing, of a bright brown hair, of an high forehead, of much beard, of a pleaſant look, ſmiling, yet ſoberly ſerious, and of a body well compoſed, and indifferently ſet, between

ſlender

ſlender and corpulent. And all this know we by the canons of Aſtrology. And that thoſe canons are true, it is no ſmall evidence, in that all the known paſſages of his life ſo punctually comply with them. And, be theſe canons true, (as we know by multitude of experience that they are certainly ſo,) then it appears by theſe canons, that at midnight of December the twenty-fifth day, was 1668* years compleat, ſince his birth. And every birth-day of this our ever bleſſed Lord and Saviour Jeſus Chriſt falls on the twenty-fifth day of December. His life points out the very moment of time whereon he came into the light. And the ſcheme of the heavens to that moment is a true picture of his life; and ſuch as no moment can ſhew again, in any hundred years time, before or after.

To theſe may be added, the frame of the heavens at his death, ſo fitly ſuiting with the time of the great buſineſs in hand, and deſcribing what was done. And firſt we note, that on the over-night of the paſſover feaſt, at what time our Saviour was apprehended, the ſign of the fourth houſe in the nativity (which always carries with it the character of death, or the end of every matter) was then aſcending; and the Sun, which was therein at birth, was then in the bloody ſeat of Mars in the radix, which was at that point of time the fourth houſe, or the bottom of heaven, ſhewing all the glory of his preſent life to be lying in the duſt, and his end of days haſtening apace to overtake him. The malignant Saturn was upon the houſe of pleaſure, enviouſly eclipſing all his mirth: Jupiter, who was radically a great aſſiſtant in the aſcendant, was the lord of the aſcendant, and ſignificator of life at this time, but was locally in the houſe of ſervice and ſlavery, in conjunction of Mars, lord of enmity in the nativity, and now lord of his end, who was greatly afflicting him in the radical place of Saturn. The ſignificator of Judas in this ſcene was Mercury in his detriment and fall in Piſces, who, as he ſtands in the third, with the lady of the mid-heaven in conjunction, and diſpoſes of his maſter in the ſixth, afflicts him with a malignant quartile; and laſtly, the Moon, which was radically in the eighth, or houſe of death, was now lady of death, and, being advanced unto the top of heaven, ſeemeth to ſtand there trampling on the head of the Sun in the fourth, as it were in his grave, with her worſt of rays, and they too not a little poiſoned with the nearneſs of the Dragon's Tail. Such was the ſtate of heaven at his apprehenſion by Judas and his company at twelve o'clock at night, on the evening preceding Friday the third of April.

* The year in which this author wrote, and calculated our Saviour's nativity. Let it be remembered, that the alteration of the ſtile has nothing to do with this calculation.

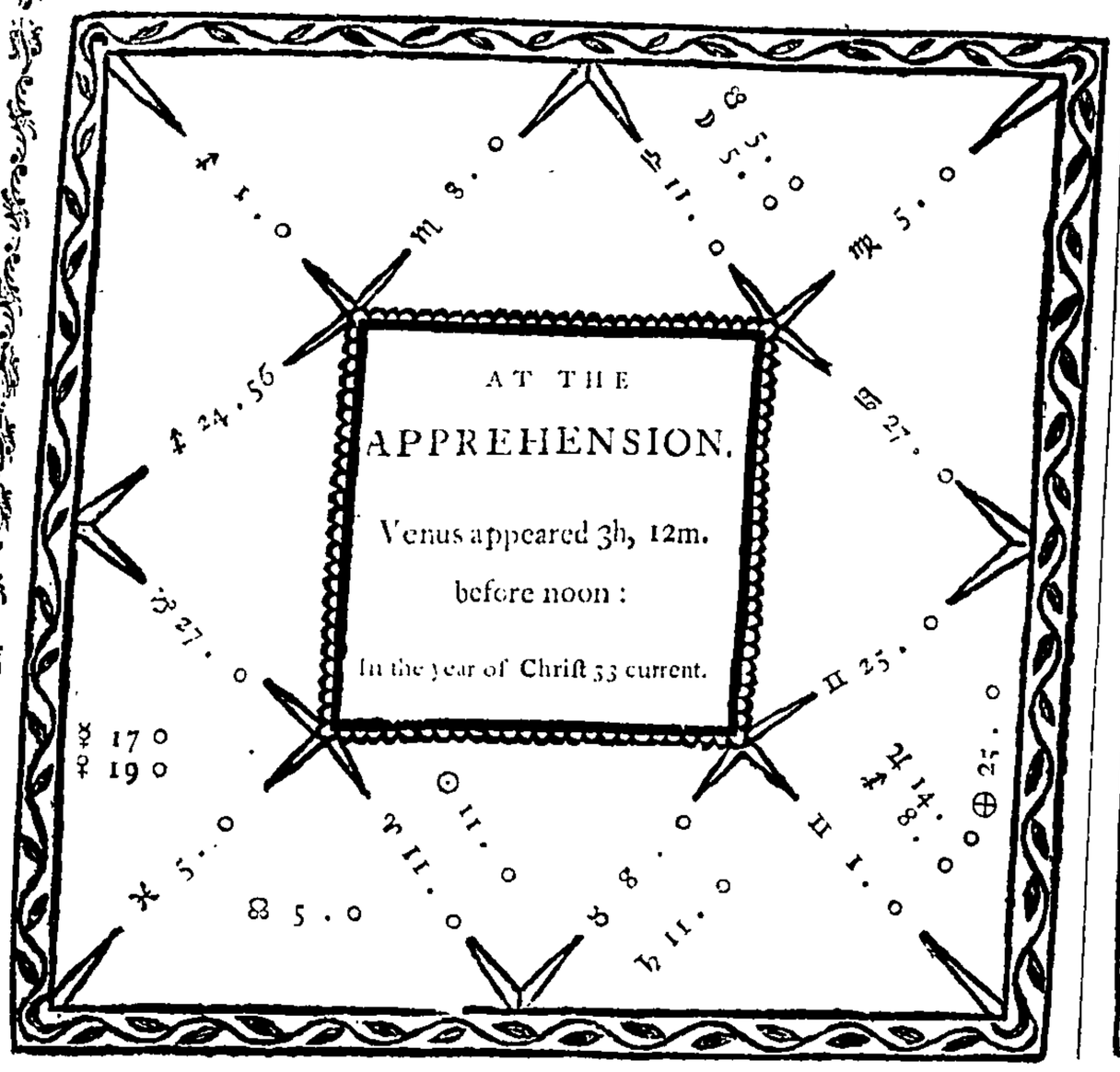
As the Sun approached the aſcendant, Jeſus was led before Pontius Pilate, the Moon in the ſeventh maliciouſly oppoſing; for ſo the judges at his firſt apprehenſion became now his accuſers, and, poſſeſſing the natural ſign of Chriſt himſelf, which aſcended at birth, and which was the ſign of juſtice, as the *labourers in the vineyard*, under pretence of religion, caſt they him out of his own: and Mercury and Venus, one ſignifying the traitor, and the other the magiſtrate into whoſe hands he was betrayed, were then in the twelfth, acting the part of private enemies. But, as the Sun drew into the eleventh, or houſe of hopes and friends, and there infected by the envious place of Mars in the radix, Pilate alſo, his ſome-while friend, yielding at laſt to the oppoſition of the Moon, or the rabble, and turning enemy, condemned him to be crucified.

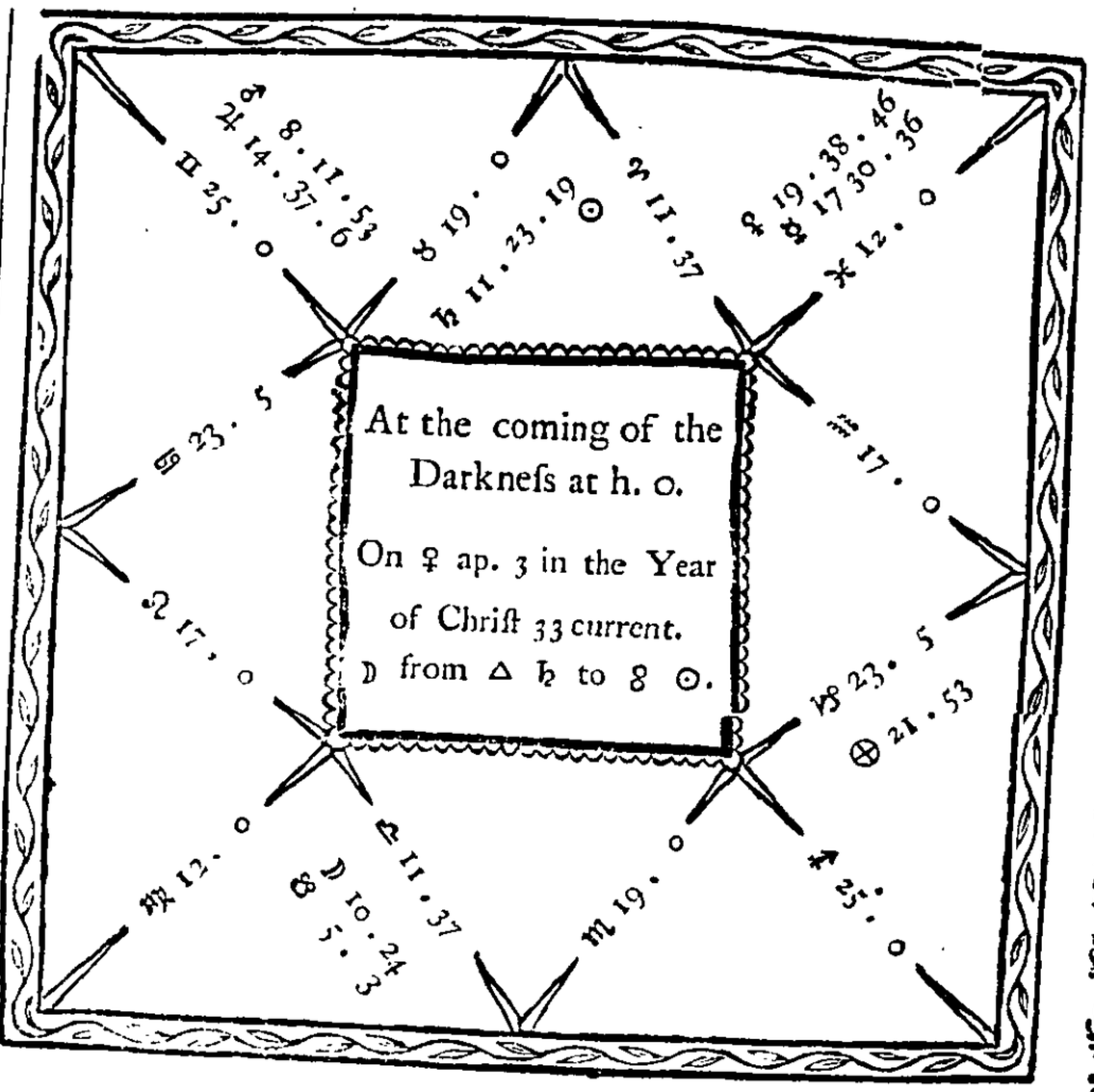
And, by that time the Sun in the radical chair of Mars came into the houſe of honour, the Sun of righteouſneſs was lifted up upon the croſs, as if he was haſting towards heaven, and that in order to draw all men after him. And here the Moon, ſignifying the rabble, oppoſes him with bitter railings. Saturn upon the eleventh, and lord of enmity, complies with them to deſtroy his hopes; and Jupiter, lord of the ninth, ſignifying the prieſts, and Mars the ſoldiers, being both in the twelfth, are private enemies. But finally, as they continue railing and reviling, lo! at the very point of high noon, an univerſal darkneſs overwhelmed all, and the Sun himſelf bluſhed to behold what curſed things were acting. The Sun was now where Mars was at birth, as it were diſpoſed of by his mortal enemies. Jupiter, which aſcended at birth, was in the hands of Saturn, in his very ſeat of the radix, as it were in the dungeon of bitter reſtraint, and Mars, the natural enemy, was afflicting him there. The Moon, which was radically lady of the mid-heaven, and placed upon the houſe of death, was now at length ſettled and ſeated together with the Dragon's Tail upon the aſcendant, or the ſeat of life, as who would ſay, the utmoſt period thereof is now expiring, and, even as the darkneſs fell, the Moon upon this place of life was juſt underground with it.

Laſtly, at three in the afternoon, the darkneſs vaniſhed, and the light returned; and then was the Sun falling into the houſe of death, ſtill being in oppoſition of the Moon. Saturn was in the ninth, enjoying the eccleſiaſtical, and Mars in the tenth, uſurping the civil, authority. But, as Chriſt died, all his miſery died with him: and that death brought light into the world, and uſhered our ever bleſſed Saviour in that glorious light into his eternal glory. And finally, the Moon aroſe at ſun-ſetting; but it was eclipſed, ſignifying the fall of all ſuch as thought to riſe upon their ſovereign's ruins. And the frame of all theſe things ye may behold as follows, in the annexed ſchemes:

But

SCHEME of the HEAVENS,



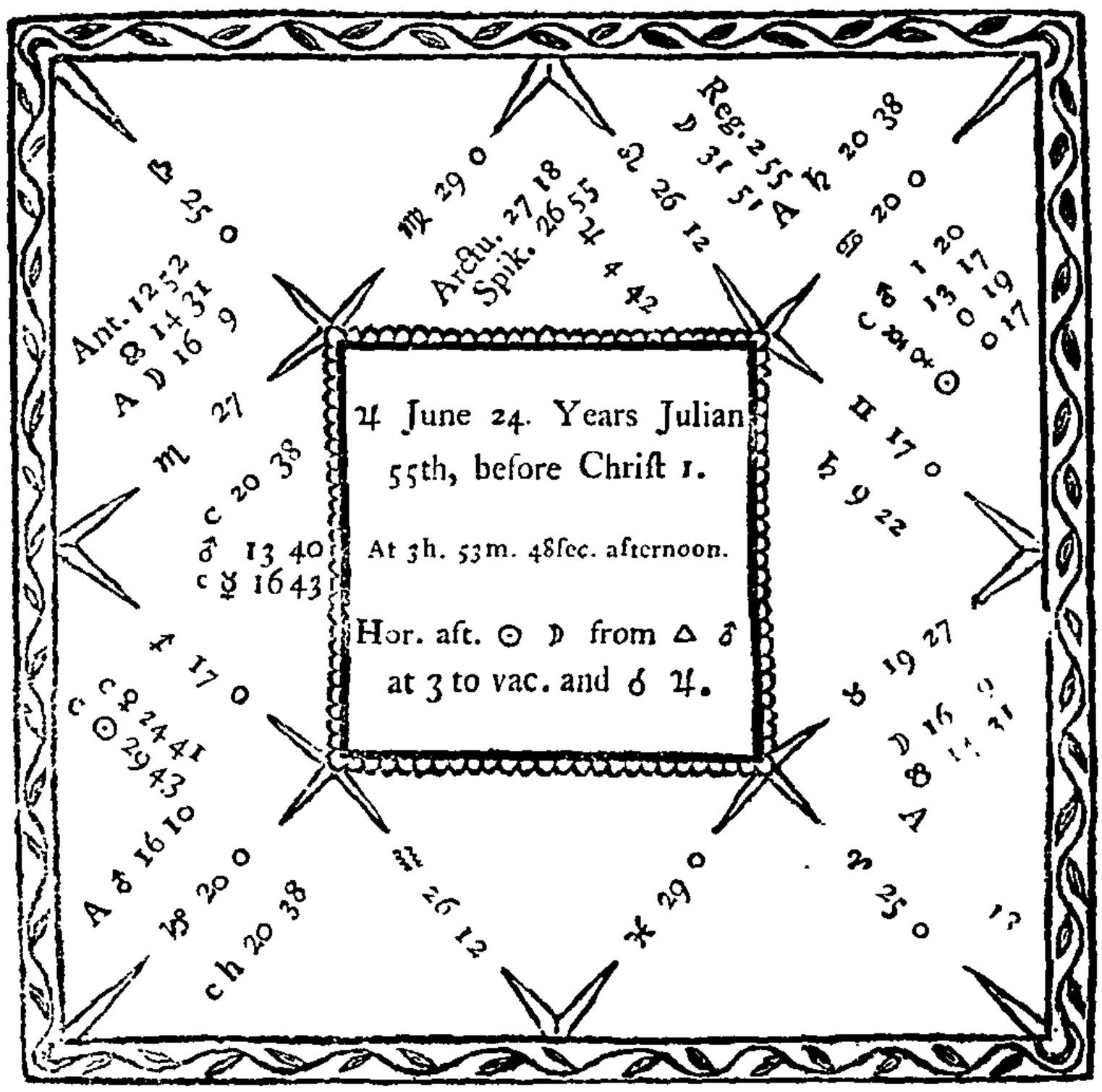


At the APPREHENSION and CRUCIFIXION of CHRIST.

To face page 910.

But, becauſe the life and death of St. John the Baptiſt was ſo nearly related to the life and death of our ever bleſſed Saviour, and the day of his nativity appears alſo with much ſhew of certainty, I have therefore taken the pains to calculate a ſcheme of his nativity alſo, as follows:

NATIVITY of ST. JOHN the BAPTIST.



☽	South Latitude	5	2
♄	South Latitude	0	50
♃	North Latitude	1	15
♂	South Latitude	3	45
♀	North Latitude	1	6
☿	South Latitude	1	13

Here the Dragon's Head and Antares, with latitude upon the aſcendant, give a very bold man; the Moon, with Regulus in trine of Mars, confirms the ſame.

The ſign Scorpio, with the contra-antiſcion of Saturn in the aſcendant, give one of a ſurly and auſtere diſpoſition; Saturn in oppoſition of Mars confirms the ſame.

The antiſcion of Saturn on the ninth, with the Moon upon the aſcendant, with the Dragon's Head, as alſo the Sun, Venus, and Mercury, in ſextile of Jupiter, inclines unto honeſty, gravity, and good manners.

Mercury in reception with Jupiter, and in trine to the aſcendant; alſo the Moon in trine of Mars, and in reception with the Sun, and the Sun in the ſextile of Jupiter, give a ſufficient wit, and a ſound judgment.

Nothing promiſes worldly wealth; but, contrarily, Jupiter in the mid-heaven, in ſextile of the Sun and Venus, promiſeth honour enough.

But Antares, a violent fixed ſtar, upon the aſcendant, with latitude, and that within a degree, beſpeaks a violent death. And Saturn in oppoſition of Mars, from angles, (the one being lord of the aſcendant, and the other of the fourth,) peremptorily threatens it. And it came to paſs, is it ſeems to be uſhered in by theſe directions, as follows.

Firſt, he entered into his miniſtry at the age of twenty-nine years, and ſome little odds; and was immediately buoyed up with wonderful applauſe. At this time were operating, the aſcendant in trine of the Moon with latitude firſt, and then without. The mid-heaven to the Virgin's Spike, with latitude firſt, and then without. Alſo the mid-heaven to Arcturus, without latitude. Alſo the Moon to the ſextile of Mercury, and the Sun to Regulus. But the aſcendant came to the conjunction of Mars, without latitude, at the ſame time.

Secondly, at thirty years of age and upwards, he was impriſoned. At which time were operating, the Moon to the quartile of Mars, and the Sun to Hydra's Head. The aſcendant to the conjunction of Mars, with latitude, and the mid-heaven to the quartile of the Sun, were coming up. But

Thirdly, he was beheaded: at which time came the aſcendant to a conjunction with Mars, with latitude, at about thirty-one years of age, and two hundred and ſixty days, or thereabouts; and the mid-heaven to the quartile of the Sun was near in action about the very ſame time.

Laſtly, we find how this death was brought about by a ſhe private enemy; and ſuch a one we find Venus, lady of the twelfth, with the Sun, lord of the mid-heaven, in the eighth.

On

On ELECTIONS.

What is meant by Elections, is nothing more than projecting a ſcheme of the heavens, to find the ſeveral poſitions and configurations of the planets on any given day whereon we propoſe to begin any buſineſs of importance, to take a long or intereſting journey, to make overtures of marriage, or to purſue any object of our happineſs or advantage; for the purpoſe of chuſing what is vulgarly called a lucky time to begin, that is, when the influx of the principal ſignificators is ſuch, as ſhall correſpond with the deſires of our mind, and with the buſineſs, whatever it may be, we wiſh to take in hand.

I purpoſely declined taking notice of this ſpeculation in the Firſt Part, that I might not be laughed at; which I muſt own the abſurdity and folly of thoſe, who on every ludicrous and trivial occaſion have reſorted with religious ſolemnity to this cuſtom, have given but too much occaſion to inſpire; yet I will now take leave to hope, that enough has been ſaid to ſhew, that in our more important concerns, and in the real and heart-felt perturbations of our minds, upon the commencement of any arduous and extenſive undertaking, it may be as well to chooſe thoſe ſeaſons when the beſt and moſt favourable influences of the heavens concur, as when they put forth the moſt noxious and diſcordant irradiations. To a thinking mind, there cannot be a moment's heſitation, ſince no man in his ſenſes would prefer a ſtormy tempeſtuous day to ride out for pleaſure, to thoſe diſtinguiſhed by calmneſs and ſerenity; nor would he chooſe an intenſe froſty morning for the pleaſures of a cold bath, which is luxuriant only in a milder ſeaſon; and yet all theſe differences in the weather are produced by the varied poſitions and changes of the planets, by an influx and effect upon the ambient matter, which we can no more ſee, than we can the influx produced by the ſame bodies upon the bent of our minds, or which determines this certain order of times, ſo fitly appropriated to all human concerns, that the ſcriptures piouſly recommend a due obſervation of them, and which, the pſalmiſt declares, *are beautiful in their ſeaſons!*

Thoſe, therefore, who wiſh to conſult the heavens, previous to any important undertaking, ſhould project the horoſcope for that preciſe time when they feel their inclinations moſt completely bent upon engaging in the buſineſs. This will ſhew them the particular influence of every ſignificator then operating; and, being compared with the genethliacal figure of birth, and with thoſe directions in the nativity, which are to operate both for our good and evil, will, upon a fair and true com-

compariſon, quickly inform us whether the buſineſs in contemplation will generally or eventually turn out to our advantage, or not. But, for the more particular diſcovery of what relates to the good or ill ſucceſs of the buſineſs itſelf, with all its conſequences and collateral incidents, a figure muſt be projected of the exact time when that buſineſs is begun, and the face of the heavens then operating, moſt particularly and minutely conſidered. The ſigns, the ſignificators, the angles of the figure, and the good and evil places of the horoſcope, are to be allowed their natural and accuſtomed implication, exactly the ſame as in all the rules heretofore laid down; and, if the two figures thus projected form an harmony and concurrence with the figure of birth, and fall in with the good directions and revolutions thereof, the undertaking will undoubtedly be proſperous, and the buſineſs ſucceſsful. But, if theſe figures are diſcordant in themſelves, and oppoſe the benevolent ſignificators in the geniture, it will, if purſued, prove dangerous or deſtructive to the native, and will forward the evil events prenoted by the directions of the geniture.

A mediocrity in the poſitions and influences of the ſignificators, and of the angular houſes of the elective figures compared with the geniture, will, as in all other caſes, produce a medium between the two extremes, and ſhew that the event of the matter in hand ſhall neither greatly ſerve, nor materially injure, the party then about to engage in it.

END of the SECOND PART.

AN

AN

ILLUSTRATION

OF THE

CELESTIAL SCIENCE

OF

ASTROLOGY.

PART the THIRD.

CONTAINING THE

METEOROLOGICAL PART of URANOLOGY;

WITH CERTAIN

RULES for prejudging the Revolutions of every Part of the habitable WORLD.

GENERAL EFFECTS OF

Great Conjunctions, Eclipſes, Comets, Blazing Stars,

And other EXTRAORDINARY PHENOMENA:

WITH THE

ART of CALCULATING ECLIPSES, TIDES, and WEATHER,

For any Number of Years to come.

THE WHOLE

Illuſtrated by a FIGURE of the SUN's Ingreſs into the Sign ARIES,

AND BY A

Revolutional FIGURE of the Commencement of the AMERICAN EMPIRE.

By EBENEZER SIBLY, ASTRO. PHILO.

PRINTED IN THE YEAR MDCCXCII.

AN

ILLUSTRATION

Of the CELESTIAL SCIENCE of

ASTROLOGY.

PART the THIRD.

THE meteorological part of Aſtrology is that which enables us, by a certain well-known influence of the planets, ſeconded by obſervation and experience, to aſcertain the cauſes of the different qualities of the air, the generation of meteors, thunder, lightning, and all the various phenomena of the heavens; whence the predictions of the weather, of the temperature and quality of the four ſeaſons of the year, and of the proſpect of a healthy and plentiful time, or of plague, peſtilence, and famine, are neceſſarily deduced.

This part of the ſcience likewiſe comprehends the doctrine of eclipſes, comets, blazing ſtars, and the great conjunctions of the ſuperior bodies; whence the revolution of empires, the fate of kingdoms, the renovation of cuſtoms, and the civil and political fluctuation of all the provinces, ſtates, principalities, and commonwealths, upon the ſurface of the globe, are ſought out and predicted. We ſhall therefore arrange theſe ſpeculations under their reſpective heads, and conſider them diſtinctly in the order they ſtand.

Of METEORS in GENERAL.

Meteors are divided into two ſorts or claſſes: the one riſing from vapours and exhalations, called imperfectly-mixed bodies, becauſe they are eaſily reduced into their firſt nature, or proper element, as into hail, ſnow, or water; and the others are termed perfectly-mixed, as thunderbolts, and ſuch-like petrified ſubſtances, becauſe they cannot ſo ſoon be converted into the firſt element from whence they were derived. The

material cauſes of all meteors are hot and moiſt vapours, or hot and dry exhalations from water and earth; the efficient cauſe is from the fixed and wandering ſtars, by virtue of whoſe beams a light rarefied ſubſtance is extracted from groſs and heavy bodies, as vapours from water, and exhalations from earth. Their qualities are heat and moiſture, which produce diverſities of effects, eſpecially in thoſe which are leſs perfectly mixed, and of a light and convertible nature.

Vapours conſiſt of the four elements; but the ſubſtance is water; as the ſteam of a boiling pot, which hangs like dew upon the lid or cover. Exhalations are commonly like ſmoke, of a hot and dry quality, as is perceived in a ſummer's day to offuſcate the air, or make it ſeem duſky with the aſcending of thin fumes; and after this uſually comes thunder, which ſhews from whence theſe exhalations were extracted; for out of fire and air only no meteor can generate, as wanting matter; the fire of itſelf being an element ſo ſubtile that it cannot be purified; whereas all exhalations and vapours muſt be refined, and conſequently extracted from ſome groſſer body. For the air, if much rarefied, will turn to fire, as is ſeen in the violent motion of wheels, and in ſuch things as are ſet on fire by rarefaction, where the matter is dry and combuſtible. When the air becomes groſs, it turns to water; as appears from our breath in the winter ſeaſon, or from the incloſed air in vaults, or other hollow places, which will quickly be condenſed by oppoſition of the outward air, or coldneſs of the place, eſpecially againſt rainy weather.

But the element of air is divided into three ſeveral regions, or parts, variouſly qualified, in which are generated many imperfect and mixed bodies; and theſe diviſions are nominated the upper, middle, and lower, regions of the air. The firſt and uppermoſt is cloſe adjoining to the element of fire, and hath a circular motion from eaſt to weſt, carried about by the *primum mobile*. This region of air is perpetually hot and dry, and, by reaſon of its violent motion and proximity to the fire, will not admit the generation of clouds, becauſe of the heat, and remoteneſs of the earth from whence they are extracted. To this place are lifted up exhalations, by nature hot and dry, which eaſily aſcend to that height, by reaſon of their heat and levity. Theſe imperfect bodies, by the heat of the Sun, and influence of the ſtars, are conceived to be exhaled from the earth, or out of lakes, rivers, ſeas, and other watery places; and this meteor, as it aſcends, leaves the groſſer parts in the loweſt and middle regions; and, as it rarefies, it elevates itſelf unto the upper region, like a ſubtile and thin fume.

Theſe exhalations, having penetrated the middle region, and attained unto the height of the elements, are circumvolved with a ſlimy matter, oily, and apt to be inflamed. Thus having aſſumed a body, it is violently carried about with the air, until with the motion and vicinity of the fire it is inflamed; and then, nouriſhed with more exhalations continually drawn unto it, it burns and converts itſelf into divers forms, according to the diſpoſition of the matter then generated.

But others appear to fall, and ſlide through the air; the lighteſt part being conſumed, or drawn away by ſome other means, or the levity of it being unable to ſupport the groſſer part, lets it deſcend obliquely through the air; and, thus enlightened, is termed a falling ſtar. Some conceive that this meteor aſcends not ſo high, being of a groſs body, (yet hot and ſtriving to aſcend,) but is repulſed by the coldneſs of the middle region, or the moiſtneſs of the clouds; and ſo, by reaſon of its own weight, and by the oppoſition of the element, it is thrown down again. The ſubſtance of it is like a jelly, tranſparent, lucid, and apt to be illuminated.

Fiery meteors are uſually moved, by the region they are in, from eaſt to weſt, according to the raptile motion of the ſpheres; though Seneca affirms that he perceived one which moved parallel to the horizon, from the north by the weſt into the ſouth, and ſo by the eaſt into the north again. This is by no means improbable, ſince many lucid meteors move with the air, and are impelled by the matter which nouriſhes them; as may be ſeen by fire in ſtubble. Another kind of meteors are ſeen to remove ſuddenly from one place to another, caſting forth ſparks like fire, and are by ſome termed goats; whilſt others again appear fixed and immovable, both in reſpect to latitude and longitude. Theſe are generated in any part of the heavens, and at all times of the year; but rarely, in cold countries, at any other time than autumn; for then the heat is ſufficient to raiſe up the matter, and the temperature of the air is apt to ſuffer the exhalations to draw to it a ſlimy matter, which cannot exiſt in the ſpring time, the heat not being then ſufficient to elevate them. And in ſummer, the exhalations are not ſo groſs, becauſe the Sun's heat diſſipates thoſe vapours, and rarefies the air; and, if it could be drawn together, the middle region is ſo cold, that it cannot aſcend to the upper; and the winter quarter is ſo cold and moiſt, and oppugnant to ſuch exhalations, that it is quite unapt for the generation of meteors of this kind.

The middle part or region of the air is generally conceived to be vehemently cold and moiſt, by antiperiſtaſis: and its effect alſo proves

the ſame. And this we ſee in all things that are oppugnant, incloſed, and comprehended by their contraries; for being of greater force doth cauſe the contrary, which is incloſed, and not being able to break forth, and at the ſame time repulſed by its oppoſite quality, contracts, and, as it were, fortifies itſelf. This is ſeen by experience in all living and ſenſitive creatures; their inward parts being much hotter in winter than in ſummer: and their ſtomachs apter and more able to digeſt their food. The cauſe is, that the heat is then repulſive to the inward parts, by the oppoſition and coldneſs of the outward air. Beſides, the fire, and all combuſtible things, will burn more violently in winter than in ſummer; and, the colder the weather is, the more it will ſcorch. The reaſon in all theſe is the ſame; ſince the fire is found to grow more violent, by how much the more it is oppoſed by the contrary quality of the ſubdued cold. The caſe is the ſame in the middle region of the air; for the upper part is made hot by the violent motion of it, and by its proximity to the element of fire; and the lower region is made hot by reflection of the Sun-beams; whence the cold included between them becomes the more violent in proportion as the lower region is inflamed by the Sun's reflection, and by that means is colder in the heat of ſummer than in winter.

Theſe diviſions or portions of the air have no determined ſpace; nor hath the water in reſpect of quality; for, by the motion of the celeſtial bodies, both cold and moiſture being drawn together, the element of water will increaſe, by which the air muſt of neceſſity diminiſh. So, by the conjunction of heat and moiſture, the ſphere of water will be diminiſhed, and the air as much increaſed. By this means the air more abounds in ſummer than in winter, and the water more in winter than in ſummer; and thus the middle region of the air is occaſionally contracted and dilated, and is conſequently greater at one time than another.

By the heat of the Sun-beams, and influence of the ſtars, meteors are elevated to the middle region of the air. Thoſe which by nature are temperately hot and moiſt are extracted from wet and wateriſh places; yet they retain as much heat as is ſufficient to elevate them unto the height of the middle region, where, by reaſon of the coldneſs of that place, they are condenſed, and there generate ſeveral kinds of imperfectly-mixed bodies. The clouds, thus incorporated, are with the cold turned into ſnow, and congealed many times before it engenders water. To prove this aſſertion, we may obſerve that ſnow, if compacted or beaten together, is not ſo ſoon diſſolved into water, as ice will be, by the Sun, or any other means; which argues, that, had this ſubſtance

been water firſt, it would have been ſooner reduced. Theſe vapours, or thick exhalations, drawn up into the middle region of the air, are often digeſted and turned into water, and from thence diſtilled down like miſts, or in very ſmall drops; for the greateſt rain is ſuppoſed not to fall far through the air, but out of the inferior part of the lower region.

It is generally conceived, that the rain which falls from the middle region deſcends in little orbs, whereby to preſerve itſelf, and to reſiſt the violence of the air through which it paſſes; and it becomes ſmall, by reaſon of the diſtance and time it occupies in falling. For hail demonſtrates both the bigneſs and rotundity of the drops, which from humid exhalations, drawn up into the middle region, are there converted into water; and, immediately as the drops diſtil down, they are contracted into ice by the coldneſs of the air, in that part which is called hail, derived from the High Dutch *Hagell*, or from the Hebrew *Egell*, which ſignifies congealed drops.

In the winter ſeaſon it is ſeldom obſerved to hail, becauſe the cold in the middle region is more remiſs than in warm weather; and in ſummer-time it is ſeldom obſerved in any very hot day, becauſe the heat of the lower region will not permit it to paſs, without diſſolving it before it reaches the earth. But in the ſpring, and in autumn, we frequently ſee, and are ſubject to, hail-ſtorms; the heat being then ſufficient to elevate the matter, and yet not ſo violent as to diſſolve it in its fall. Sometimes, however, it happens that very large hail-ſtones are precipitated at Midſummer, or in the very hotteſt ſeaſons; and theſe hail-ſtones are then the greater, if the elevated matter be ſufficient, by how much the more its nature is oppoſed by the lower region, made hot by the reflection of the Sun; for in all times of the year, and in all countries, there are more and greater ſtorms of hail obſerved to fall in the day than in the night.

There is unqueſtionably a fiery nature included in hail-ſtones, very different from the heat of that ſubtile vapour which occaſions it to aſcend the middle region; for by the force of contraries it is evidently congealed, as may be illuſtrated by the ſimple quality of ſalt, which, being hot and dry, is made of water whoſe natural temperatures are directly oppoſite; being cold and moiſt in open weather, or by the fire-ſide, or in the ſummer ſeaſon. Take a handful of ſalt and mix ſome ſnow with it; ſtir them together till they incorporate; and they will immediately contract themſelves into ice; which is done by antiperiſtaſis, or repulſion on every part; ſo, the middle region of the air being cold, theſe frigid meteors are thereby generated.

The

The lower region of the air receives all the former qualities by neceſſity, according to the ſeveral ſeaſons of the year; and, by the means already mentioned, there are exhaled from the earth moiſt and crude vapours; the groſſer parts being earthy, and containing but little heat, they are unable to aſcend to the middle region; yet by the help of that heat, and the attractive virtue of the celeſtial orbs, they are raiſed above the earth, and there oftentimes congeal before they can be diſſolved into water. Theſe are called froſts, whereof there be many kinds, according to the matter exhaled, and the temperature of the ſeaſon. At ſome times of the year, the ground in the mornings will be hoary, like the head of thyme, and the graſs criſped with the froſt; at other times rime-froſts, or congealed miſts, hang pendant on the branches of trees; or elſe black or wind froſts, which are not ſo wholeſome; for they conſiſt of groſs and earthy vapours, exhaled out of more undigeſted humours, and are not ſo eaſily diſcovered by the ſight as by the ſenſe of feeling.

There are other vapours exhaled, which are called miſts, derived from the mixture of air and water. Of theſe there are ſeveral ſorts; ſome are thin and ſterile, and have not moiſture ſufficient to beget water, nor is the heat in them ſufficiently prevalent to elevate the groſs humours, and cauſe them to aſcend; but they hang upon the earth until the Sun riſes; then he uſually chaſes them away, and, being diſſipated, it becomes a fine day.

Beſides the above, there are groſs miſts or fogs, which are more earthy than the former, compoſed of crude and undigeſted vapours, drawn from corrupted places, out of fens and wet marſhy grounds. Theſe are very unwholeſome, and unpleaſant to the ſmell, in proportion either to the noxious ſtagnate waters from whence they were extracted, or to the putridity of the air, occaſioned by a long continuance of calm moiſt weather.

There is another exhalation called dew, which is a liquid vapour, extracted from water or earth. This hath an affinity to froſt, as rain hath to ſnow; and are alike in the material cauſe; the efficient cauſe being attributed to the ſtars, and to the coldneſs of the air. The dews are conceived to be very earthy and ponderous; for they do not aſcend high, but are converted into a watery ſubſtance, almoſt as ſoon as extracted, being obſerved much more upon low and wet grounds, than upon high and dry hills; and thicker upon the humble ſhrub, than upon trees of an high and exalted nature, like the lofty cedar.

The

The uſual time of theſe dews is in the evening; the heat of the Sun, declining, being then unable to ſupport the meteors which he raiſed in the day; and, on his deſerting the hemiſphere, thoſe that were more elevated muſt likewiſe fall. The hotter the day, the greater are the exhalations; and the nights are then uſually colder, to convert them into water. All dews are obſerved to be greater at the Moon's increaſing; but greateſt of all at the fall. The ſeaſon of the year is to be conſidered, and the weather; for, the hotter the day is, the colder will be the night, by reaſon of the ſhadow which the terreſtrial globe then makes; as is exemplified by the ſhades of trees, or of any other interpoſed body, which are colder in ſummer-time than in winter, in reſpect of the air in general. For in ſhadowed places, in the heat of ſummer, the air, as in oppoſition to the heat, is found to contract itſelf into a groſſer body; from whence it appears that the whole element of air is by nature cold.

There is a dew that flies in the air like ſmall untwiſted ſilk; which, falling upon the ground, or on plants, converts itſelf into a form like ſpiders' webs. The matter they conſiſt of is an earthy and ſlimy vapour or exhalation, ſomething dry; and they are found equally in ſpring, ſummer, and autumn; but in theſe northern countries they are moſt frequent when the Sun is near Libra, the days being then temperately warm, the earth not exceeding dry, nor yet overcharged with moiſture.

There is alſo another ſort of dew, called honey-dew, which conſiſts of earthly exhalations mixed with wateriſh vapours; and many ſuppoſe them to be exhalations from plants and flowers; and this more evidently appears from ſugar-canes, and divers kinds of Indian reeds, which have, in the morning, dews hanging upon them, in taſte reſembling honey; and argue, by their ſweetneſs, that they are extracted from the plants. Theſe honey-dews afford plenty to the ſtores of the induſtrious bee; nor have their purveyors much labour or trouble to procure their loading; but, though theſe honey dews are good for bees, they are deſtructive to many kinds of animals, as ſheep, goats, deer, and the like; and are in general injurious to all fruits and blooming flowers; eſpecially to hops, grapes, and corn; and often blaſt them in their prime. It was for the purpoſe of diverting theſe evil effects, that Numa, one of the Roman kings, ſuperſtitiouſly inſtituted the feaſts called Rubigalia and Floralia, in the year from the building of Rome 516; which feaſts were obſerved on the 28th of April to the 3d calend of May. This feſtival the Catholic Church hath ſince converted into Aſcenſion Week, calling it Rogation, from the circumſtance of imploring a bleſſing upon the fruits of the earth.

The next effect to be conſidered is rain. Rain-water is found much more inſipid at one time than at another; and is very often impregnated with a brackiſh taſte, yet comfortable to vegetation; and, by reaſon of the warmth, it nouriſh·s more abundantly, and is more natural for that purpoſe, than ſpring-water, or what is drawn out of wells, which is cold, and too earthy; whereas the other participates of the air, which is hot and moiſt; but, by reaſon of this co-mixture of the elements, it is apt to form divers animalculæ, eſpecially in calm times; which, like the air, wanting motion, may corrupt; and ſo, conſequently, generates many things, according to the undigeſted matter exhaled from the earth.

The loweſt meteor in the air ſomewhat reſembles a burning candle; and is by ſome called Ignis Fatuus. This is a hot and moiſt vapour, which, ſtriving to aſcend, is repulſed by the cold, and, forced by antiperiſtaſis, moves cloſe to the earth, and is carried along by the vapours that feed it, always keeping in low moiſt places. The lucid rays are of an exceeding pale colour, and very unwholeſome to meet with, by reaſon of the noxious vapours it attracts, which nouriſhes the palid flame. It is frequently ſeen to aſcend with a very rapid motion; but it as ſuddenly falls, the moment it is repelled by the cold atmoſphere; from whence its name is derived.

There are likewiſe vapours, hot and moiſt, co-mixed with exhalations that are hot and dry, involved thus within one another, and form what is termed electrical matter. They aſcend, by virtue of their heat, into the middle region of the air, where the exhalations, by antiperiſtaſis, grow inflamed, and ſtrive to break forth from the cloud in which they are involved. The upper part of the cloud, where the heat would paſs, by oppoſition grows more ſtrong; and the exhalation, grown over hot by being thus conſtrained, breaks forth with violence from the weakeſt place, againſt the air that is in the loweſt part; and, by reaſon of the cold above it, the heat and ſubtilneſs of the exhalation, with its own violence in breaking forth, glances down upon the earth, without doing any injury, if unreſiſted; as a conſuming ſword, without hurting the ſcabbard. This is the natural generation of thunder and lightning; which Dr. Franklin, Dr. Prieſtly, and other ingenious men, have largely treated of in their electrical diſquiſitions.

The clap of thunder is firſt, but the lightning ſooneſt appears; becauſe our ſenſe of ſeeing is much quicker than that of hearing; as may be exemplified by a thouſand common experiments; particularly by the diſcharge of a gun, or cannon, where we ſee the fire before we hear

the report. With the conjunction of theſe compound vapours and exhalations, ſtones are generated in the air, as other minerals are in the earth, but more fiery by nature; and theſe are what are vulgarly called thunder-bolts; which, in their form, are perfect cones, like the flame of fire which generates the mout of the terrene exhalations; they pervade the earth in proportion to the projectile force of their velocity. The preſervatives againſt thunder and lightning are many. All hard things will preſerve what is ſoft and liquid; as iron laid upon veſſels will keep the liquor from ſouring, by the former alleged reaſons, beſides this, it is naturally reſiſted by a cover made of ſeal's ſkin, which preſerves any creature by which it is covered. The like doth the laurel-tree; for which reaſon many of the Roman Emperors, in times of thunder and lightning, were accuſtomed to wear a garment made of laurel-boughs. The pale lightning is moſt unwholeſome; but the red apteſt to burn; the beſt and moſt aſſured preſervative againſt which is the protection of heaven.

But let it be noted, that there may be thunder without lightning, and lightning without thunder; for, when theſe hot and dry exhalations are inflamed, and the cloud weak in which they are involved, the incenſed exhalation breaks forth without violence, not being reſtrained; and the coldneſs of the middle region ſtrikes the flaſhes downward, but not always to the earth, though its glittering and reflecting upon the watery clouds makes it appear cloſe by; the ſame as when the Sun beams, or any other ſudden light, falling upon the water, will reverberate the luſtre, and dazzle the eye; particularly if the water be moved with any wind. Theſe corruſcations are common in hot countries, and in the heat of ſummer.

Thunder without lightning alſo happens when the hot and dry exhalations break violently through the clouds in which they are circumvolved, but not inflamed; yet making a roaring noiſe in the burſt of the cloud which reſtrained it. We alſo frequently ſee little bladders filled with wind give a crack or report at the ſudden and violent breaking of them. Sometimes thunder happens, and yet no lightning will appear, by reciprocal winds; the clouds violently breaking themſelves in meeting with one another; and this may often happen, by the inſurrection of ſeveral mutinous exhalations diſturbing the air with ſeveral commotions. Theſe uſually happen after much calm weather; and are very wholeſome to purify and purge the air, leſt with too much quietneſs it ſhould corrupt.

Rain-

Rainbows are generated in wateriſh clouds, which are ready to be diſſolved into rain. Theſe are obſerved to be always directly oppoſite the Sun or Moon; as, if the Sun be in the ſouth, the rainbow will be in the north; and, when the Sun is in the eaſt, the rainbow will be in the weſt; and thus in every part of the globe. The lower or nearer the the Sun is to the horiſon, the larger will the rainbow appear; though it never can exceed a ſemicircle, and is the leſs in proportion to the light of the Sun above, in any ſphere; which is the reaſon at noon-day we ſo ſeldom ſee any rainbow, particularly when the Sun is in the ſummer ſolſtice, or near the tropic of Cancer; except in ſuch places as are far northward, or towards the antarctic pole, where, for ſome weeks, there is continual day.

The Sun in winter, near Capricorn, may cauſe a rainbow at noon-day in our climate; for they are formed by the light rays of the Sun falling upon vapours and wateriſh exhalations oppoſite to him, and but little elevated above the earth; and, by reaſon of the great diſtance or remoteneſs of the Sun, the illuminated beams deſcribe his form after an obſcure and imperfect manner, portraiting on an arch of a circle, adorned uſually with the colours red, green, and purple, inclining to a bluiſh colour. The diſtinction of theſe proceeds from the radius of the Sun, reflecting upon the vapours; and thoſe colours are light in it which are neareſt to the Sun, and thoſe which are moſt remote always tend more to obſcurity; for a demonſtration, both of the colours and form of the rainbow, it only requires to caſt water in a circular manner againſt the Sun when it ſhines, and the whole is produced artificially.

Some think the red colour only is made by the Sun's rays, and ſuppoſe the ſecond colour is produced by reflection, and the third by the ſecond; and that all are contained within one condenſed hollow cloud, co-mixed with airy and watery exhalations. For, if more rainbows than one appear at a time, it is certain that they are produced by reflection of one another; but the colours in the ſecond will be weaker than thoſe in the firſt; and the third rainbow will be more palid than the ſecond, if there happen to be three, which is very ſeldom: then the colours in the firſt will be counterchanged in the ſecond, and the third again like the firſt. The arches in the clouds or rainbow uſually continue longer than the circles about the Sun, becauſe the diſtance in theſe are ſo great, that his beams cannot ſo ſoon diſſipate the exhalations which cauſed them. Rainbows in the night-time are exceeding rare, becauſe they are made by the Moon, whoſe beams are too weak to cauſe ſuch reflections upon any cloud at ſo great a diſtance; but, though they are rare, they ſometimes happen.

They

The *Aurora Borealis*, or northern light, is an extraordinary meteor, or luminous appearance, ſhewing itſelf in the night-time in the northern part of the heavens. It is uſually of a reddiſh colour, inclining to yellow, and ſends out frequent corruſcations of pale light, which ſeem to riſe from the horiſon in a pyramidal undulating form, and ſhoot, with great velocity, up to the zenith.

The *Aurora Borealis* appears moſt commonly in form of an arch; chiefly in the ſpring and autumn; after a dry year. The arch is partly bright, partly dark; but generally tranſparent. And the matter of which it conſiſts is alſo found to have no effect on the rays of light which paſs through it. Dr. Hamilton obſerves, that he could plainly diſcern the ſmalleſt ſpeck in the Pleiades through the denſity of thoſe clouds which formed part of the *Aurora Borealis* in 1763, without the leaſt diminution of its ſplendor, or increaſe of twinkling.

This kind of meteor never appears near the equator, and was ſo rare in England, that none are recorded in our annals ſince that remarkable one, November 14, 1574, till the ſurpriſing *Aurora Borealis*, March 6, 1716, which appeared for three nights ſucceſſively, and put the whole kingdom into the utmoſt conſternation, terrifying brutes as well as men. Indeed the horſes were ſo frightened, that no fences could keep them in the incloſures; it was impoſſible to travel in the evenings, and the road-waggons, and all other carriages, were obliged to lie by immediately that the Sun was down. In the years 1707 and 1708, five ſmall ones were obſerved in little more than eighteen months; but they have no compariſon with the above. Hence it ſhould ſeem, that the air, or earth, or both, are not at all times diſpoſed to produce this phenomenon, for, though it is poſſible it may happen in the day-time, in bright moon-ſhine, or in cloudy weather, and ſo paſs unobſerved; yet that it ſhould appear ſo frequent at ſome times, and ſo ſeldom at others, cannot well this way be accounted for. That in March, 1716, was viſible to the weſt of Ireland, and the confines of Ruſſia, and to the eaſt of Poland; extending at leaſt near thirty degrees of longitude, and from about the fiftieth degree in latitude, over almoſt all the north of Europe; and in all places at the ſame time it exhibited the like wonderous appearances.

Many attempts have been made to aſſign the cauſe of this phenomenon. Dr. Halley imagines the watery vapours, or effluvia, rarefied exceedingly by ſubterraneous fire, and tinged with ſuphureous ſtreams, which many naturaliſts have ſuppoſed to be the cauſe of earthquakes, may alſo be the cauſe of this appearance: or that it is produced by a kind of ſubtile mat-

ter, freely pervading the pores of the earth, and which, entering into it nearer the ſouthern pole, paſſes out again, with ſome force, into the ather at the ſame diſtance from the northern; the obliquity of its direction being proportioned to its diſtance from the pole. This ſubtile matter, by becoming ſome way or other more denſe, or having its velocity increaſed, may be capable of producing a ſmall degree of light, after the manner of effluvia, from the electric bodies, which, by a ſtrong and quick friction, emit light in the dark: to which ſort of light this ſeems to have a great affinity.

The celebrated M. de Mairan, in an expreſs treatiſe on the *Aurora Borealis*, publiſhed in 1731, aſſigns its cauſe to the zodiacal light, which, according to him, is no other than the Sun's atmoſphere: this light happening, on ſome occaſions, to meet the upper parts of our air, on the ſide of the limits where univerſal gravity begins to act more forcibly towards the earth than towards the Sun, falls into our atmoſphere, to a greater or leſs depth, as its ſpecific gravity is greater or leſs, compared with the air through which it paſſes. Mr. Fuller thinks the cauſe of the *Aurora Borealis* not owing to the zodiacal light, as M. de Mairan ſuppoſes; but to particles of our atmoſphere, driven beyond its limits by the impulſe of the light of the Sun. On this ſuppoſition, he endeavours to account for the phenomena obſerved concerning this light. He ſuppoſes the zodiacal light, and the tails of comets, to be owing to a ſimilar cauſe. This light ſometimes appears remarkably red, as it happened December 5, 1737, of which there are a variety of accounts from different parts of Europe.

Ever ſince the identity of lightning, and of the electric matter, has been aſcertained, philoſophers have been naturally led to ſeek the explication of aerial meteors in the principles of electricity; and they ſeem to have no doubt but moſt of them, and eſpecially the *Aurora Borealis*, are formed of electrical matter. Beſides the more obvious and known appearances which conſtitute a reſemblance between this meteor and the electric matter whereby lightning is produced, it has been obſerved, that the *Aurora* occaſions a very ſenſible fluctuation in the magnetic needle; and that, when it has extended lower than uſual into the atmoſphere, the flaſhes have been attended with various ſounds of rumbling and hiſſing, taken notice of both by Sig. Beccaria and M. Meſſier. Mr. Canton, ſoon after he had obtained electricity from the clouds, offered a conjecture, that the *Aurora Borealis* is occaſioned by the daſhing of electric fire from poſitive towards negative clouds at a great diſtance, through the upper part of the atmoſphere where the reſiſtance is leaſt. And he

ſup-

ſuppoſes, that the *Aurora*, which happens at the time when the magnetic needle is diſturbed by the heat of the earth, is the electricity of the heated air above it; and this appears chiefly in the northern regions, as the alteration in the heat of the air in thoſe parts will be the greateſt; nor is this hypotheſis improbable, when it is conſidered, that clouds ſurcharged with electrical matter are the cauſe of thunder and lightning; that it has been extracted from the air at the time of an *Aurora Borealis*; that the inhabitants of the northern countries obſerve it to be remarkably ſtrong when a ſudden thaw ſucceeds very ſevere cold weather; and that the tourmalin is known to emit and abſorb the electric fluid only by the increaſe or diminution of its heat.

Poſitive and negative electricity in the air, with a proper quantity of moiſture to ſerve as a conductor, is ſuppoſed to account for this and other meteors, ſometimes ſeen in a ſerene ſky. Mr. Canton has ſince contrived to exhibit this meteor by means of the Torricellian vacuum, in a glaſs tube about three feet long, and ſealed hermetically. When one end of the tube is held in the hand, and the other applied to the conductor, the whole tube will be illuminated from end to end; and will continue luminous, without interruption, for a conſiderable time, after it has been removed from the conductor. If, after this, it be drawn through the hand either way, the light will be uncommonly intenſe, and without the leaſt interruption, from one hand to the other, even to its whole length. And, though a great part of the electricity is diſcharged by this operation, it will ſtill flaſh at intervals, when held only at one extremity, and kept quite ſtill; but, if it be graſped by the other hand at the ſame time in a different place, ſtrong flaſhes of light will hardly ever fail to dart from one end to the other, and theſe will continue twenty-four hours, and longer, without any freſh excitation. An arched double barometer, of a conſiderable height, is an improvement of this contrivance, for exhibiting the appearance of an *Aurora Borealis* by means of the electric fire. Signor Beccaria, who has purſued his obſervations on atmoſpherical electricity farther than any of his aſſociates in theſe enquiries, conjectures that there is a conſtant and regular circulation of the electric fluid from north to ſouth; and he thinks, that the *Aurora Borealis* may be this electric matter performing its circulation in ſuch a ſtate of the atmoſphere as renders it viſible, or approaching nearer the earth than uſual. Dr. Franklin ſuppoſes, that the electrical fire diſcharged into the polar regions from many leagues of vaporiſed air raiſed from the ocean between the tropics, accounts for the *Aurora Borealis*; and that it appears firſt, where it is firſt in motion, i. e. in the moſt northern part, and the appearance proceeds ſouthward, though the fire really moves northward.

All

All this, however, appears to be little more than the conjectural ſpeculation of modern philoſophers. The ancients, it is plain, never ſaw this phenomenon; nor did it ever occur in their days, ſince no mention whatever is made of it in their writings, nor is any notice taken of it in the records of the moderns until the year 1574, which is the firſt time, I believe, the *Aurora Borealis* ever made its appearance in the world; and, being a new phenomenon in nature, muſt undoubtedly have been produced by ſome great conjunction, or by the violent heat of ſome inviſible comet, or by a variation in the frame and ſyſtem of the world, or of the heavenly bodies, which at that particular æra muſt have taken place, and which ſtill continues, at times, to produce the ſame luminous and fiery appearance.

Blazing ſtars are fiery luminous appearances, generated in the upper region of the air, and formed into a body, whence they take an oblique direction with aſtoniſhing velocity, and deſcend to the earth. The light they convey will ſometimes exceed that of the Moon, as was the caſe a few years ſince, with a very remarkable one, which paſſed from north to ſouth, very near the ſurface of the earth, and was ſuppoſed to fall into the ſea. Their appearance is at once beautiful and tremendous.

Signor Beccaria, in one of his philoſophical papers, makes mention of a very remarkable one, which appeared about an hour after ſun-ſet, and directed its courſe immediately towards the ſpot where he and ſome friends were walking. It grew apparently larger and larger as it approached, and went off very near them; when it left their faces, hands, and clothes, with the earth, and all the neighbouring objects, ſuddenly illuminated with a diffuſed and lambent light, but without any noiſe.

Blazing ſtars are likewiſe underſtood by ſome to mean comets, on account of their tails, or the extended train of light or fire which is obſerved to iſſue from them. But, as the doctrine of comets is an immenſe ſpeculation, I ſhall treat of them under a diſtinct and ſeparate head.

Of COMETS.

A Comet is now certainly defined to be a heavenly body, in the planetary region, appearing ſuddenly, and again diſappearing; and, during the time of its appearance, moving in a proper though very eccentric orbit, like a planet. As to their nature, the unfrequency of their appearing, together with the ſeeming irregularities of their phenomena, have

have left philoſophers much in the dark. Thoſe who lived before Ariſtotle accounted for them by ſuppoſing the heavenly ſpaces full of an infinite number of ſtars; and many of them too remote, or too ſmall, to have ever come under the notice of aſtronomers: theſe inviſible ſtars they farther ſuppoſed to move by their own proper motion every way; finiſhing their courſes in very unequal times. And a comet, according to them, was a vaſt heap or aſſemblage of theſe little ſtars, meeting together, by reaſon of the inequality of their motions, and uniting into a viſible maſs; which muſt again diſappear, as thoſe ſtars ſeparated, and each proceeded in its courſe. But, how thoſe ſtars ſhould thus meet, coaleſce, and form a body, which in all poſitions of the Sun ſhould reſemble a tail, and again ſeparate, is totally inexplicable. This opinion Ariſtotle overturned, by ſubſtituting another in its ſtead: he inſiſted that comets were only a kind of tranſient fires, or meteors, conſiſting of exhalations raiſed to the upper region of the air, and there ſet on fire, far below the Moon's courſe. But neither is this hypotheſis more juſt than the other: for, on this principle, the light of the comet, being independent of the Sun, would be diſperſed every way alike, without any appearance of a train, or tail, which is contrary to the phenomena. Moreover, they are obſerved at the ſame time in places on the earth very remote from each other. Beſides, the modern aſtronomers who have meaſured the diſtance between the comets and the earth, find that the comets have no ſenſible diurnal parallax; which could not be, were they not much more remote than the Moon, whoſe parallax is ſenſible: and yet, as they have a ſenſible annual parallax, they are not ſo remote as the fixed ſtars. Tycho Brahe was the firſt among the moderns, who, after diligently obſerving the comet of 1577, and finding that it had no ſenſible diurnal parallax, aſſigned it its true place in the planetary regions.

Hevelius, from a great number of obſervations, propoſes it as his opinion, that the comets, like the ſolar maculæ, or ſpots, are formed and condenſed out of the groſſer exhalations of his body. In which notion he agrees nearly with Kepler, who maintains, that comets are generated in the æther in vaſt numbers, like fiſhes in the ocean; though they do not all become viſible, either becauſe of their ſmallneſs, or becauſe they lie a long time under the horiſon.

But Sir Iſaac Newton has ſhewn the fallacy of this hypotheſis, by proving that the comet of 1680, in its paſſage through the neighbourhood of the Sun, would have been diſſipated, had it conſiſted of exhalations of the Sun and planets; for the heat of the Sun, it is allowed, is as the denſity of his rays, i. e. reciprocally as the ſquares of the

diſtances of places from the Sun. Wherefore, ſince the diſtance of that comet in its perihelion, December the 8th, was obſerved to be to the diſtance of the earth from the Sun nearly as 6 to 1000; the Sun's heat in the comet, at that time, was to his heat with us at Midſummer, as 1000000 to 36, or 28000 to 1. And again, finding by experiment that the heat of boiling water is little more than three times the heat of our dry earth, when expoſed to the Midſummer's Sun; and aſſuming the heat of red-hot iron to be about three or four times as great as that of boiling water; he thence concludes, that the heat of the dried earth, or body of the comet in its perihelion, muſt be near 2000 times as great as that of red-hot iron.

Such an immenſe heat once acquired in its perihelion, the comet muſt be a long time in cooling again. The ſame author computes, that a globe of red-hot iron, of the dimenſions of our earth, would ſcarce be cool in 50000 years. If then the comet be ſuppoſed to cool 100 times as faſt as red-hot iron, yet, ſince its heat was 2000 times greater, ſuppoſing it of the bigneſs of the earth, it would not be cool in a million of years.

James Bernouilli, in his Syſtema Cometarum, ſuppoſes ſome primary planet revolving round the Sun in the ſpace of four years and one hundred and fifty-ſeven days, and at the diſtance from his body of 2583 ſemidiameters of the magnus orbis; this planet, he concludes, either from its vaſt diſtance or ſmallneſs, to be inviſible to us: but, however, to have, at various diſtances from him, ſeveral ſatellites moving round him, and ſometimes deſcending as low as the orbit of Saturn; and that theſe becoming viſible to us, when in their perigæum, are what we call comets.

Des Cartes advances another opinion: he conjectures, that comets are only ſtars, formerly fixed, like the reſt, in the heavens; but which, becoming by degrees covered with maculæ, or ſpots, and at length wholly robbed of their light, cannot keep their place, but are carried off by the vortices of the circumjacent ſtars; and, in proportion to their magnitude and ſolidity, moved in ſuch manner as to be brought nearer the orb of Saturn; and thus, coming within reach of the Sun's light, rendered viſible.

But the vanity of all theſe hypotheſes abundantly appears from the phenomena of comets; the chief of which are as follow: 1ſt, Thoſe comets, which move according to the order of the ſigns, do all, a little before they diſappear, either advance ſlower than uſual, or elſe go retro-

grade, if the earth be between them and the Sun: and more ſwiftly, if the earth be ſituate in a contrary part. On the other hand, thoſe which proceed contrary to the order of the ſigns, proceed more ſwiftly than uſual, if the earth be between them and the Sun; and more ſlowly, or go retrograde, when the earth is in a contrary part. 2d, So long as their velocity is increaſed, they move, nearly, in great circles; but towards the end of their courſe, they deviate from thoſe circles; and as often as the earth proceeds one way, they go the contrary way. 3d, They move in ellipſes, having one of their foci in the centre of the Sun; and, by radii drawn to the Sun, deſcribe areas proportionable to the times. 4th, The light of their bodies, or nuclei, increaſes in their receſs from the earth toward the Sun; and on the contrary, decreaſes in their receſs from the Sun. 5th, Their tails appear the largeſt and brighteſt, immediately after their tranſit through the region of the Sun, or after their perihelion. 6th, The tails always decline from a juſt oppoſition to the Sun towards thoſe parts which the bodies, or nuclei, paſs over, in their progreſs through their orbits. 7th, This declination, *cæteris paribus*, is the ſmalleſt, when the heads, or nuclei, approach neareſt the Sun: and is leſs, ſtill, nearer the nucleus of the comet, than towards the extremity of the tail. 8th, The tails are ſomewhat brighter, and more diſtinctly defined, in their convex than in their concave part. 9th, The tails always appear broader at their upper extreme than near the centre of the comet. 10th, The tails are always tranſparent, and the ſmalleſt ſtars appear through them.

Theſe are the chief phenomena of comets; which, it is evident, cannot eaſily be reconciled with the wild notions of the ancients, and the weak conjectures of many of the moderns. Indeed, there were ſome, Pliny tells us, among the ancients, who, "had juſter notions; who "took theſe ſtars to be perpetual, and believed they moved in their "proper orbs; but were never ſeen, unleſs when left by the Sun." Apollonius Myndius declared, that he took comets for regular ſtars; and ventured to foretel, that one day the periods and laws of their motion would be diſcovered. And more fully Seneca, Quæſt. Nat. lib. vii. "I am not of the common opinion, nor do I take a comet to be a ſudden "fire, but eſteem it among the eternal works of nature." *Quid autem miramur cometas, tam rarum mundi ſpectaculum, nondum teneri legibus certis, nec initia illorum fineſque innoteſcere, quorum ex ingentibus nec intervallis recurſus eſt? Veniet tempus quo iſta quæ nunc latent in lucem dies extrahat, & longioris ævi diligentia. Veniet tempus quo poſteri noſtri tam aperta nos neſciſſe mirentur. Erit qui demonſtret aliquando, in quibus cometæ partibus errent: cur tam ſe ducti a cæteris errent, quanti qualeſque ſint.*

This

This prediction we have ſeen accompliſhed in our days, by the great Sir Iſaac Newton; whoſe doctrine is as follows:

The comets, he ſays, are compact, ſolid, fixed, and durable, bodies: in one word, a kind of planets; which move, in very oblique orbits, every way with the greateſt freedom; perſevering in their motions, even againſt the courſe and direction of the planets; and their tail is a very thin ſlender vapour, emitted by the head, or nucleus of the comet, ignited or heated by the Sun. This at once ſolves all the foregoing phenomena: for, "It is evident, that thoſe which proceed according to "the order of the ſigns, a little before they diſappear, muſt move more "ſlowly, or appear retrograde, if the earth be betwixt them and the "Sun; and ſwifter if the earth be in a contrary part. On the contrary, "thoſe proceeding againſt the order of the ſigns," &c. For ſince this courſe is not among the fixed ſtars, but among the planets; as the motion of the earth either conſpires with them, or goes againſt them; their appearance, with regard to the earth, muſt be changed; and, like the planets, they muſt ſometimes appear ſwifter, ſometimes ſlower, and ſometimes retrograde. "When the comets move the ſwifteſt, they muſt "proceed in ſtraight lines; but, in the end of their courſe, decline," &c. Becauſe, in the end of their courſe, when they recede almoſt directly from the Sun, that part of the apparent motion which ariſes from the parallax, muſt bear a greater proportion to the whole apparent motion.

The comets muſt move in ellipſes, having one of their foci in the centre of the Sun. Becauſe they do not wander precariouſly from one fictitious vortex to another; but, making a part of a ſolar ſyſtem, return perpetually, and run a conſtant round. Hence, their elliptic orbits being very long and eccentric, they become inviſible when in that part moſt remote from the Sun. From conſidering the curvity of the paths of comets, Sir Iſaac concludes, that, when they diſappear, they are much beyond the orb of Jupiter; and that in their perihelion, they frequently deſcend below the orbit of Mars and the inferior planets. The light of their nuclei muſt increaſe in their receſs from the Sun, and *vice verſa*. Becauſe, as they are in the regions of the planets, their acceſs toward the Sun bears a conſiderable proportion to their whole diſtance.

From obſervations of the comet of 1680, Sir Iſaac Newton found that the vapour in the extremity of the tail, January 25th, began to aſcend from the head before December 11; and had therefore ſpent more than forty-five days in its aſcent; but that all the tail which appeared

peared December 10th aſcended in the ſpace of thoſe two days, then juſt paſt ſince its perihelion. The vapour, therefore, at the beginning, when the comet was near the Sun, aſcended prodigiouſly ſwift; and afterwards continued to aſcend with a motion retarded by the gravity of its particles; and by that aſcent increaſed the length of the tail; but the tail, notwithſtanding its length, conſiſted almoſt wholly of vapours, which had aſcended from the time of its perihelion; and the vapour which aſcended firſt, and compoſed the extreme part of the tail, did not vaniſh till it was too far from the Sun to be illuminated by him, and from us to be viſible. Hence alſo, the tails of comets that are ſhorter do not aſcend with a quick and continual motion from the head, and then preſently diſappear; but are permanent columns of vapours and exhalations, gathered from the head, by a very gentle motion, and a great ſpace of time; which yet, by participating of that motion of their heads they had at the beginning, continue eaſily to move along with their heads through the celeſtial regions; whence alſo the vacuity of thoſe regions is argued.

Their tails muſt appear the largeſt and brighteſt immediately after their tranſit through the region of the Sun. Becauſe, then, their heads, being the moſt heated, will emit the moſt vapours. From the light of the nucleus, or apparent ſtar, we infer their vicinity to the earth, and that they are by no means in the region of the fixed ſtars, as ſome have imagined; ſince, in that caſe, their heads would be no more illuminated by the Sun than the planets are by the fixed ſtars. The tails muſt ſtill decline from a diſtinct oppoſition to the Sun towards the parts which the heads paſs over in their progreſs through their orbits; becauſe all ſmoke, or vapour, emitted from a body in motion, tends upwards obliquely, ſtill receding from that part towards which the ſmoking body proceeds. That declination will be ſtill the leaſt near the nucleus of the comet, and when the comet is neareſt the Sun; becauſe the vapour aſcends more ſwiftly near the head of the comet than in the higher extremity of its tail; and when the comet is at a leſs diſtance from the Sun than when at a greater. The tail is brighter and better defined in its convex part than in its concave; becauſe the vapour in the convex part, which goes firſt, being ſomewhat nearer and denſer, reflects the light more copiouſly. The tail muſt appear broader towards the higher extremity of the comet than towards the head; becauſe the vapour in a free ſpace is perpetually rarefied and dilated. The tails muſt be tranſparent, becauſe conſiſting of infinitely thin vapour, &c. Thus accurately does the hypotheſis tally to the phenomena.

The nuclei, which we occaſionally call the heads and bodies of comets, viewed through a teleſcope, ſhew a very different face from thoſe of the fixed ſtars, or planets. They are liable to apparent changes, which Sir Iſaac Newton aſcribes to changes in the atmoſphere of comets: and this opinion was confirmed by obſervations of the comet in 1744. Sturmius tells us, that, obſerving the comet of 1680, with a teleſcope, it appeared like a coal dimly glowing, or a rude maſs of matter illuminated with a duſky fumid light, leſs ſenſible at the extremes than in the middle; rather than as a ſtar,-which appears with a round diſk, and a vivid light.

Hevelius obſerved of the comet of 1661, that its body was of a yellowiſh colour, very bright and conſpicuous, but without any glittering light: in the middle was a dent ruddy nucleus, almoſt equal to Jupiter, encompaſſed with a much fainter thinner matter. February 5th, its head was ſomewhat bigger and brighter, of a gold colour; but its light more duſky than the reſt of the ſtars: here, the nucleus appeared divided into ſeveral parts. February 6th, the diſk was leſſened; the nuclei ſtill exiſted, though leſs than before: one of them, on the lower part of the diſk, on the left, much denſer and brighter than the reſt; its body round, and repreſenting a very lucid little ſtar: the nuclei ſtill encompaſſed with another kind of matter. February 10th, the head ſomewhat more obſcure, and the nuclei more confuſed, but brighter at top than bottom. February 13th, the head diminiſhed much, both in magnitude and brightneſs. March 23, its roundneſs a little impaired, its edges lacerated, &c. March 28th, very pale and exceeding thin; its matter much diſperſed; and no diſtinct nucleus at all appearing.

Weigelius, who ſaw the comet of 1664, the Moon, and a little cloud illuminated by the Sun at the ſame time, obſerved that the Moon, through the teleſcope, appeared of a continued luminous ſurface; but the comet very different; being perfectly like a little cloud in the horiſon, illuminated by the Sun. From theſe obſervations it was, that Hevelius concluded comets to be like maculæ, or ſpots, formed out of the ſolar exhalations.

The eſtimates that have been given by Tycho, Hevelius, and ſome others, of the magnitude of comets, are not ſufficiently accurate to be depended upon; for it does not appear, that they diſtinguiſhed between the nucleus and the ſurrounding atmoſphere. Thus Tycho computes that the true diameter of the comet in 1577 was in proportion to the diameter of the earth as 3 is to 14. Hevelius made the diameter of the comet of 1652 to that of the earth as 52 to 100. The diameter of

the atmoſphere is often ten or fifteen times as great as that of the nucleus; the former, in the comet of 1682, when meaſured by Flamſtead, was found to be two minutes, but the diameter of the nucleus only eleven ſeconds. Some comets, from the apparent magnitude and diſtance compared, have been judged to be much larger than the Moon, and even equal to ſome of the primary planets. The diameter of that of 1744, when at the diſtance of the Sun from us, meaſured about one minute, and therefore its diameter muſt be about three times the diameter of the earth: at another time the diameter of its nucleus was nearly equal to that of Jupiter.

The lengths of the tails of comets are various, and depend on a variety of circumſtances. Longomontanus mentions a comet that in 1618, December 10th, had a tail above one hundred degrees in length; that of 1680, according to Sturmius, about the 20th of November, was but ſmall; at moſt, not exceeding twenty degrees in length; in a little time it grew to a length of ſixty degrees, after which it dwindled very ſenſibly. The comet of 1744 had a tail which at one time appeared to extend above ſixteen degrees from its body; and which, allowing the Sun's parallax ten ſeconds, muſt have been above twenty-three millions of miles in length.

Sir Iſaac Newton ſhews, that the atmoſphere of comets will furniſh vapour ſufficient to form their tails; this he argues from that wonderful rarefaction obſerved in our air at a diſtance from the earth: a cubic inch of common air, at the diſtance of half the earth's diameter, or four thouſand miles, would neceſſarily expand itſelf ſo far as to fill a ſpace larger than the whole region of the ſtars. Since then the coma or atmoſphere of a comet is ten times higher than the ſurface of the nucleus, counting from the centre thereof, the tail, aſcending much higher, muſt neceſſarily be immenſely rare: ſo that it is no wonder the ſtars ſhould be viſible through it.

Now, the aſcent of vapours into the tail of the comet he ſuppoſes occaſioned by the rarefaction of the matter of the atmoſphere at the time of the perihelion. Smoke, it is obſerved, aſcends the chimney by the impulſe of the air wherein it floats; and air, rarefied by heat, aſcends by diminution of its ſpecific gravity, taking up the ſmoke along with it: why then ſhould not the tail of a comet be ſuppoſed to be raiſed after the ſame manner by the Sun? for the Sun-beams do not act on the mediums they paſs through any otherwiſe than by reflection and rarefaction. The reflecting particles, then, being warmed by the action, will

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again warm the æther wherewith they are compounded; and this, rarefied by the heat, will have its ſpecific gravity, whereby it before tended to deſcend, diminiſhed by the rarefaction, ſo as to aſcend, and carry along with it thoſe reflecting particles whereof the tail of the comet is compoſed. This aſcent of the vapours will be promoted by their circular motion round the Sun; by means whereof, they will endeavour to recede from the Sun, while the Sun's atmoſphere, and the other matters in the celeſtial ſpaces, are either at reſt, or nearly ſo; as having no motion but what they receive from the Sun's circumrotation. Thus are the vapours raiſed into the tails of comets in the neighbourhood of the Sun, where the orbits are moſt curve; and where the comets, being within the denſer atmoſphere of the Sun, have their tails of the greateſt length.

The tails thus produced, by preſerving that motion, and at the ſame time gravitating towards the Sun, will move round his body in ellipſes, in like manner as their heads; and, by this means, will ever accompany, and freely adhere to, their head. In effect, the gravitation of the vapours towards the Sun will no more occaſion the tails of the comets to forſake their heads, and fall down towards the Sun, than the gravitation of their heads will occaſion them to fall off from their tails; but by their common gravitation they will either fall down together to the Sun, or be together ſuſpended or retarded. This gravitation, therefore, does not at all hinder but that the heads and tails of comets may receive and retain any poſition towards each other, which either the above-mentioned cauſes or any other may occaſion. The tails, therefore, thus produced in the perihelion of comets, will go off, along with their heads, into remote regions; and either return thence, together with the comets, after a long ſeries of years; or, rather, be there loſt, and vaniſh by little and little, and the comets be left bare; till, at their return, deſcending towards the Sun, ſome little ſhort tails are gradually and ſlowly produced from the heads; which, afterwards, in the perihelion, deſcending into the Sun's atmoſphere, will be immenſely increaſed.

The vapours, when they are thus dilated, rarefied, and diffuſed, through all the celeſtial regions, the ſame author obſerves, may probably, by little and little, by means of their own gravity, be attracted down to the planets, and become intermingled with their atmoſpheres. He adds likewiſe, that, for the conſervation of the water and moiſture of the planets, comets ſeem abſolutely requiſite; from whoſe condenſed vapours and exhalations, all that moiſture, which is ſpent in vegetations and putrefactions, and turned into dry earth, &c. may be re-ſupplied and recruited.

cruited. For all vegetables grow and increaſe wholly from fluids; and, again, as to their greateſt part, turn, by putrefaction, into earth again; an earthy ſlime being perpetually precipitated to the bottom of putrefying liquors. Hence, the quantity of dry earth muſt continually increaſe, and the moiſture of the globe decreaſe, and at laſt be quite evaporated, if it has not a continual ſupply from ſome part or other of the univerſe. And I ſuſpect, adds our great author, that the ſpirit, which makes the fineſt, ſubtileſt, and the beſt, part of our air, and which is abſolutely requiſite for the life and being of all things, comes principally from the comets.

On this principle, there ſeems to be ſome foundation for the popular opinion of preſages from comets; ſince the tail of a comet, thus intermingled with our atmoſphere, may produce changes very ſenſible in animal and vegetable bodies. Another uſe which he conjectures comets may be deſigned to ſerve, is that of recruiting the Sun with freſh fuel, and repairing the conſumption of his light by the ſtreams continually ſent forth in every direction from that luminary. In ſupport of this conjecture, he obſerves, that comets in their perihelion may ſuffer a diminution of their projectile force by the reſiſtance of the ſolar atmoſphere; ſo that by degrees their gravitation towards the Sun may be ſo far increaſed as to precipitate their fall into his body.

There have been various conjectures about the generation of the tails of comets. Appian, Tycho Brahe, and ſome others, apprehended that they were produced by the Sun's rays tranſmitted through the nucleus of the comet, which they ſuppoſed to be tranſparent, and there refracted as in a lens of glaſs, ſo as to form a beam of light behind the comet. Des Cartes accounted for the phenomenon of the tail by the refraction of light from the head of the comet to the eye of the ſpectator. Mairan ſuppoſes that the tails are formed out of the luminous matter that compoſes the Sun's atmoſphere; M. De la Lande combines this hypotheſis with that of Newton above recited. Mr. Rowning, who is not ſatisfied with Sir Iſaac's opinion, accounts for the tails of comets in the following manner. It is well known, ſays he, That, when the light of the Sun paſſes hrough the atmoſphere of any body, as the earth, that which paſſes on one ſide is, by the refraction thereof, made to converge toward that which paſſes on the oppoſite one; and the convergency is not wholly effected either at the entrance of the light into the atmoſphere, or at its going out; but, beginning at its entrance, it increaſes in every point of its progreſs. It is alſo agreed, that the atmoſpheres of the comets are very large and denſe. He therefore ſuppoſes that, by ſuch time as the light

of the Sun has paſſed through a conſiderable part of the atmoſphere of a comet, the rays thereof are ſo far refracted toward each other, that they then begin ſenſibly to illuminate it, or rather the vapours floating therein, and ſo render that part they have yet to paſs through viſible to us: and that this portion of the atmoſphere of a comet thus illuminated appears to us in form of a beam of the Sun's light, and paſſes under the denomination of a comet's tail.

We have an enquiry into the cauſe of the tails of comets, by Mr. Euler. He thinks there is a great affinity between theſe tails, the zodiacal light, and the *Aurora Borealis*; and that the common cauſe of them all is the action of the Sun's light on the atmoſphere of the comets, of the Sun, and of the earth. He ſuppoſes, that the impulſe of the rays of light on the atmoſphere of comets may drive ſome of the finer particles of that atmoſphere far beyond its limits; and that this force of impulſe, combined with that of gravity towards the comet, would produced a tail, which would always be in oppoſition to the Sun, if the comet did not move. But the motion of the comet in its obit, and about an axis, muſt vary the poſition and figure of the tail, giving it a curvature, and deviation from a line drawn from the centre of the Sun to that of the comet; and that this deviation will be greater, as the orbit of the comet has the greater curvature, and that the motion of the comet is more rapid. It may even happen, that the velocity of the comet, in its perihelion, may be ſo great, that the force of the Sun's rays may produce a new tail before the old one can follow; in which caſe the comet might have two or more tails. The poſſibility of this is confirmed by the comet of 1744, which was obſerved to have ſeveral tails while it was in its perihelion.

Dr. Hamilton urges ſeveral objections againſt the Newtonian hypotheſis; and concludes that the tail of a comet is formed of matter which has not the power of refracting or reflecting the rays of light; but that it is a lucid or ſelf-ſhining ſubſtance, and, from its ſimilarity to the *Aurora Borealis*, produced by the ſame cauſe, and a proper electrical phenomenon. Dr. Halley ſeemed inclined to this hypotheſis, when he ſaid, that the ſtreams of light in an *Aurora Borealis* ſo much reſembled the long tails of comets, that at firſt ſight they might well be taken for ſuch: this light ſeems to have a great affinity to that which the effluvia of electric bodies emit in the dark.

M. Fatio has ſuggeſted, that ſome of the comets have their nodes ſo very near the annual orbit of the earth, that, if the earth ſhould hap-

pen to be found in that part next the node, at the time of a comet's paſſing by, the moſt dreadful conſequences might be apprehended; as the apparent motion the comet will be incredibly ſwift, ſo its parallax will become very ſenſible; and the proportion thereof to that of the Sun will be given: whence ſuch tranſits of comets will afford the beſt means of determining the diſtance of the earth and Sun.

The comet of 1472, had a parallax above twenty times greater than the Sun's: and, if that of 1618 had come down in the beginning of March to its deſcending node, it would have been much nearer the earth, and its parallax much more notable. But, hitherto, none has threatened the earth with a nearer appulſe than that of 1680: for, by calculation, Dr. Halley finds, that, November 11th, 1 h. 6 min. P. M. that comet was not above one ſemidiameter of the earth to the northward of the way of the earth; at which time, had the earth been in that part of its orbit, the comet would have had a parallax equal to that of the Moon: what might have been the conſequence of ſo near an appulſe, a contact, or, laſtly, a ſhock of the celeſtial bodies? Mr. Whiſton ſays, a deluge!

If the paths of comets be ſuppoſed directly parabolical, as ſome have imagined, it would follow, that, being impelled toward the Sun by a centripetal force, they deſcend as from ſpaces infinitely diſtant; and by their falls acquire ſuch a velocity, as that they may again run off into the remoteſt regions: ſtill moving upwards with ſuch a perpetual tendency as never to return. But the frequency of their appearance, and their degree of velocity, which does not exceed what they might acquire by their gravity towards the Sun, ſeems to put it paſt doubt that they move, planet-like, in elliptic orbits, though exceedingly eccentric; and ſo return again, after very long periods. The apparent velocity of the comet of 1472, as obſerved by Regiomontanus, was ſuch as to carry it through forty degrees of a great circle in twenty-four hours: and that of 1770 was obſerved to move through more than forty-five degrees in the laſt twenty-five hours.

Newton, Flamſtead, Halley, and the Engliſh aſtronomers, ſeem ſatisfied of the return of comets: Caſſini, and others of the French, think it highly probable; but De la Hire, and others, oppoſe it. Thoſe on the affirmative ſide ſuppoſe the comets to deſcribe orbits prodigiouſly eccentric, inſomuch that we can only ſee them in a very ſmall part of their revolution; out of this, they are loſt in the immenſe ſpaces; hid not only from our eyes, but our teleſcopes. That little part of their orbit near us, M. Caſſini, &c. have found to paſs between the orbits of Venus and Mars. For the reaſons of the return of comets, M. Caſſini gives

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theſe which follow: 1. In conſidering the courſe of the comets, with regard to the fixed ſtars, they are found to keep a conſiderable time in the arch of a great circle, i. e. a circle whoſe plane paſſes through the centre of the earth: indeed, they deviate a little from it, chiefly towards the end of their appearance; but this deviation is common to them with the planets. 2. Comets, as well as planets, appear to move ſo much the ſlower as they are nearer the earth; and, when they are at equal diſtances from their perigee, their velocities are nearly the ſame.

By ſubtracting from their motion the apparent inequality of velocity occaſioned by their different diſtances from the earth, their equal motion might by found; but we ſhould not be certain this motion were their true one; becauſe they might have conſiderable inequalities, not diſtinguiſhable in that ſmall part of their orbit viſible to us. It is, indeed, probable, their real motion, as well as that of the planets, is unequal in itſelf: and hence we have a reaſon why the obſervations made during the appearance of a comet cannot give the juſt period of their revolution.

There are no two different planets whoſe orbits cut the ecliptic in the ſame angle, whoſe nodes are in the ſame points of the ecliptic, and whoſe apparent velocity in their perigee is the ſame: conſequently, two comets ſeen at different times, yet agreeing with all thoſe three circumſtances, can only be one and the ſame comet. And this were the comets of 1577 and 1680 obſerved to do, and thoſe of 1652 and 1698; not that this exact agreement, in theſe circumſtances, is abſolutely neceſſary to determine them the ſame comet. M. Caſſini finds the Moon herſelf irregular in them all: accordingly, he is of opinion, there are ſeveral which diſagree herein, and yet may be accounted the ſame.

The great objection againſt the return of comets, is, the rarity of their appearance, with regard to the number of revolutions aſſigned to them. In 1702, there was a comet, or rather the tail of one, ſeen at Rome, which M. Caſſini takes to be the ſame with that obſerved by Ariſtotle, and that ſince ſeen in 1668, which would imply its period to be thirty-four years. Now, it may ſeem ſtrange, that a ſtar which has ſo ſhort a revolution, and of conſequence ſuch frequent returns, ſhould be ſo ſeldom ſeen.—Again, in April, of the ſame year, 1702, a comet was obſerved by Meſſ. Bianchini, and Maraldi ſuppoſed by the latter to be the ſame with that of 1664, both by reaſon of its motion, velocity, and direction. M. de la Hire took it to have ſome relation to another he had obſerved in 1698, which

which M. Caſſini refers to that of 1652. On this ſuppoſition, its period appears to be forty-three months; and the number of revolutions, between 1652 and 1698, fourteen: but it is hard to ſuppoſe, that, in this age, wherein the heavens are ſo narrowly watched, a ſtar ſhould make fourteen appearances unperceived; eſpecially ſuch a ſtar as this, which might appear above a month together, and of conſequence be frequently diſengaged from the crepuſcula. For this reaſon M. Caſſini is very reſerved in maintaining the hypotheſis of the return of comets, and only propoſes thoſe for planets, where the motions are eaſy and ſimple, and are ſolved without ſtraining, or allowing many irregularities.

M. de la Hire propoſes one general difficulty againſt the whole ſyſtem of the return of comets, which would ſeem to hinder any comet from being a planet: and it is this; that, by the diſpoſition neceſſarily given to their courſes, they ought to appear as large at firſt as at laſt; and always increaſe, till they arrive at their greateſt proximity to the earth: or, if they ſhould chance not to be obſerved, as ſoon as they become viſible, for want of attention thereto, at leaſt it is impoſſible but they muſt frequently ſhew themſelves before they have arrived at their full magnitude and brightneſs. But he adds, that none were ever yet obſerved till they had arrived at it. Yet the appearance of a comet in the month of October 1723, while at a great diſtance, ſo as to be too ſmall and dim to be viewed without a teleſcope, may ſerve to remove this obſtacle, and ſet the comets, ſtill, on the ſame footing with the planets. Sir Iſaac Newton ſuppoſes, that as thoſe planets which are neareſt the Sun, and revolve in the leaſt orbits, are the ſmalleſt; ſo, among the comets, ſuch as in their perihelion come neareſt the Sun are the ſmalleſt, and revolve in ſmaller orbits.

Dr. Halley has given us a table of the aſtronomical elements of all the comets that have been yet obſerved with due care; whereby, whenever a new comet ſhall appear, it may be determined, by comparing it therewith, whether it be any of thoſe which have yet appeared: and conſequently its period, and the axis of its orbit, be determined, and its return foretold. This table contains the aſtronomical elements of twenty-four comets, on the ſuppoſition that they moved in parabolas; though he thought it extremely probable that they really moved in very eccentric ellipſes, and conſequently returned after long periods of time. This table commences with the year 1337, and cloſes with 1698.

TABLE OF COMETS.

HALLEY's TABLE OF THE ELEMENTS OF COMETS.

Comets. A.D.	Afcending node. ° ' "	Inclin. orbit. ° ' "	Perihelion. ° ' "	Perihel. diftance from the Sun; the diftance of the earth being 100000.	Equat. time of the perihel.	D.	H.	M.	
1337	♊ 24 21 0	32 11 0	♉ 7 59 0	40666	June,	2	6	25½	retrog.
1472	♑ 11 46 20	5 20 0	♉ 5 33 30	54273	Febru.	28	22	23	retrog.
1531	♉ 19 25 0	17 56 0	♒ 1 39 0	56700	Auguft,	24	21	18½	retrog.
1532	♊ 20 27 0	32 36 0	♋ 21 7 0	50910	Octob.	19	22	12	direct.
1556	♍ 25 42 0	32 6 30	♑ 8 50 0	46390	April,	21	20	3	direct.
1577	♈ 25 52 0	74 32 45	♌ 9 22 0	18342	Octob.	26	18	45	retrog.
1580	♈ 18 57 20	64 40 0	♋ 19 5 50	59628	Novem.	28	15	0	direct.
1585	♉ 7 42 30	6 4 0	♈ 8 51 0	109358	Septem.	27	19	20	direct.
1590	♍ 15 30 40	29 40 40	♏ 6 54 30	57 61	January,	29	3	45	retrog.
1596	♒ 12 12 30	55 12 0	♏ 18 16 0	51293	July,	31	19	55	retrog.
1607	♉ 20 21 0	17 2 0	♒ 2 16 0	58680	Octob.	16	3	50	retrog.
1618	♊ 16 1 0	37 34 0	♈ 2 14 0	37975	Octob.	29	12	23	direct.
1652	♊ 28 10 0	79 28 0	♈ 28 18 40	84750	Novem.	2	15	40	direct.
1661	♊ 22 30 30	32 35 50	♋ 25 58 40	44851	January,	16	23	41	direct.
1664	♊ 21 14 0	21 18 30	♌ 10 41 25	102575½	Novem.	24	11	52	retrog.
1665	♍ 18 2 0	76 5 0	♊ 11 54 30	10649	April,	14	5	15	retrog.
1672	♃ 27 30 30	83 22 0	♉ 16 59 30	69739	Febru.	20	8	37	direct.
1677	♏ 26 49 10	79 3 15	♌ 17 37 5	28059	April,	26	0	37½	retrog.
1680	♑ 2 2 0	60 56 0	♐ 22 39 30	00612	Decem.	8	0	6	direct.
1682	♉ 21 16 30	17 56 0	♒ 2 52 45	58328	Septem.	4	7	39	retrog
1683	♍ 23 23 0	83 11 0	♊ 25 29 30	56020	July,	3	2	50	retrog.
1684	♓ 28 15 0	65 48 40	♏ 28 52 0	96015	May,	29	10	16	direct.
1686	♐ 20 34 40	31 21 40	♊ 17 0 30	32500	Septem.	6	14	33	direct.
1698	♐ 27 44 15	11 46 0	♑ 0 51 15	69129	October,	8	16	57	retrog.

Another table has fince been computed, from the obfervations contained in the Philofophical Tranfactions, De la Caille's Aftronomy, and De la Lande's Hiftoire de la Comete de 1759, & Connoiffance des Mouvemens Celeftes, 1762 & 1764. In this table are feen the elements of twenty-five other comets, from the year 1264 to 1762. And, by comparing thefe tables it will be found that none of thefe comets, except that of 1769, appears to be the fame with any other in either of the tables; unlefs we admit thofe of 1264 and 1556, and thofe of 1599 and 1699, to be the fame.

TABLE of COMETS.

A SUPPLEMENT to HALLEY'S TABLE of the ELEMENTS of COMETS.

Computed time of perihelion				Places of the perihelion.			Inclination.			Perihelion.			Perihelion distance in parts of the mean distance of the earth from the sun.	
	D.	H.	M	°	′	″	°	′	″	°	′	″		
1264 July,	6	8	0	♍	19	0	0	36	30	0	♈	21	0	0	44500	direct.
1533 June,	16	19	30	♌	5	41	0	35	40	0	♎	27	16	0	2 [illegible]	retrog.
1595 July,	8	13	38	♍	14	14	15	37	38	0	♍	26	19	0	69111	direct.
1607 Auguſt,	16	14	3	♍	11	40	0	3	4	20	♐	27	45	0	125362	direct.
1680 January,	3	8	22	♐	21	45	35	69	20	0	♏	2	31	6	74400	retrog.
1683 March,	2	14	12	♒	9	25	15	4	30	0	♎	18	41	3	64599	direct.
1696 January,	19	4	56	♈	13	11	23	55	14	5	♊	12	56	25	42[illegible]56	direct.
1707 Novem.	30	23	43	♉	22	50	29	18	37	40	♊	19	58	9	85104	direct.
1718 January,	4	1	15	♌	7	55	20	31	12	53	♌	1	26	36	102565	retrog.
1723 Septem.	16	16	10	♈	14	16	0	49	59	0	♉	12	52	20	99865	retrog.
1729 June,	12	6	36	♒	10	35	15	17	1	5	♒	22	16	50	406980	direct.
1737 January,	19	8	17	♏	16	22	0	18	20	45	♒	25	55	0	2[illegible]382[illegible]	direct.
1739 June,	6	10	0	♈	27	25	12	55	42	44	♑	12	38	40	67338	retrog.
1742 January,	28	4	21	♎	5	34	45	67	4	11	♏	7	33	44	76555[illegible]	retrog.
1742 Decem.	30	21	15	♊	8	10	48	2	15	50	♋	2	58	4	83811[illegible]	direct.
1743 Septem.	9	21	16	♈	5	16	25	45	49	21	♐	6	33	52	52157	retrog.
1744 Febru.	19	8	17	♉	15	45	20	47	8	36	♎	17	12	55	22706	direct.
1747 Febru.	17	11	45	♌	20	58	27	7	50	55	♍	10	5	41	229388	retrog.
1748 April,	17	19	25	♏	22	52	16	55	26	57	♏	5	0	50	84066[illegible]	retrog.
1748 June,	7	1	24	♉	4	39	43	56	59	3	♑	6	9	2[illegible]	655[illegible]5½	direct.
1757 October,	21	7	55	♏	4	12	50	12	53	20	♌	2	58	0	33754	direct.
1759 March,	12	13	50	♉	23	45	35	17	40	15	♒	3	8	10	58490[illegible]	retrog.
1759 Novem.	27	2	19	♌	19	39	2[illegible]	58	59	22	♉	23	24	20	79851	direct.
1759 Decem.	16	12	41	♊	18	56	1[illegible]	4	37	23	♌	19	2	48	961[illegible]3	retrog.
1762 May,	28	15	18	♓	19	23	[illegible]	84	45	[illegible]	♋	15	14	0	101210	direct.

There are many things in the comet of 1532, obſerved by Peter Appian, which intimate its being the ſame with that of 1607, obſerved by Kepler and Longomontanus; and which Dr. Halley himſelf again obſerved in 1682. All the elements agree, and there is nothing contradicts the opinion but that inequality in the periodic revolution, which however he thinks is no more than may be accounted for from phyſical cauſes: no more in effect than is obſerved in Saturn; the motion of which planet is ſo diſturbed by the reſt, eſpecially Jupiter, that its period is uncertain for ſeveral days together: to what errors then may not a comet be liable, which riſes to almoſt four times the height of the planet Saturn; and whoſe velocity, if but a little increaſed, would change its elliptic orb into a parabolic one?

What

What further confirms the identity, is the appearance of another comet in the ſummer of 1456, which, though obſerved by none with accuracy, yet, by its period and the manner of its tranſit, he concludes to be the ſame; and thence ventured to foretel its return in the year 1758, or the beginning of the next year: and time has verified the prediction. The comet of 1661 ſeems to be the ſame with that of 1532, and to have its period in one hundred and twenty-nine years; and Halley alſo thought that the comet of 1680 was the ſame that was obſerved in 1106, 531, and in the forty-fourth year before Chriſt, when Julius Cæſar was murdered; and that its period was five hundred and ſeventy-five years. Mr. Dunthorne, in the Philoſophical Tranſactions, vol. xlvii. has endeavoured to ſhew, from a MS. in Pembroke-hall Library, that that the comet of 1106 could not be ſame with that of 1680. But M. De la Lande adopts the opinion of Dr. Halley.

To determine the place and courſe of a comet, obſerve the diſtance of the comet from two fixed ſtars whoſe longitudes and latitudes are known: from the diſtances thus found, calculate the place of the comet by trigonometry; and, by repeating the obſervations and operations for ſeveral days ſucceſſively, the courſe of the comet will be had. We might alſo determine the courſe of a comet mechanically, without any apparatus of inſtruments, by the following ingenious method, with a thread, which we owe to Longomontanus. Obſerve four ſtars round the comet, ſuch as that the comet may be in the interſection of the right lines that join the two oppoſite ſtars; which is eaſily found by means of a thread placed before the eye, and extended over againſt the ſtars and comet. Find theſe four ſtars upon a globe, and extend two threads croſsways, from one corner to the other of the ſquare ſpace deſcribed by the four ſtars, and the central point where the threads interſect each other will give the place of the comet. This practice being repeated for ſeveral days, the comet's courſe will be had on the globe; which courſe will be found to be a great circle, from any two points whereof it will be eaſy to find its inclination to the ecliptic, and the place of the nodes, only by obſerving where a thread, ſtretched through the two points, cuts the ecliptic.

Such is the doctrine of comets, as laid down from time to time both by the ancient and modern philoſophers; but which, like moſt other abſtruſe phenomena, is founded pretty much upon conjecture and arbitrary conception. Should the comet of 1680 appear in or about the year 1792, as predicted by the ingenious Sir Iſaac Newton, it will confirm a great deal of the foregoing ſpeculation, as to their poſſeſſing a determinate place in the

ſyſtem; and will convince us that their revolutions, though extremely eccentric, are nevertheleſs definable, and ſuch as may hereafter throw great light upon philoſophical diſquiſitions.

My own opinion of comets, I purpoſely withhold, until I have an opportunity of making ſome obſervations upon the expected phenomenon in 1792; when, if it ſhould appear, I propoſe offering to the public ſome conjectures upon it, in a ſeparate pamphlet, ſo printed as to bind up with this work; and I ſhall give a copper-plate print of it, deſcribing the point where it will croſs the earth's orbit; and point out to the moſt unlettered mind the inevitable diſſolution of the earth, when everit falls in with, or meets, the fiery body of a comet in its approach to, or receſs from, the body of the Sun, which is the centre of our ſyſtem.

Of ECLIPSES.

An Eclipſe, from εκλειψις, of ελειπω, *to fail*, ſignifies a failure or privation of the light of one of the luminaries, by the interpoſition of ſome dark or opaque body falling between it and the eye, or between it and the Sun. The Moon, being a dark and opaque body, receives her light from the Sun by reflection; which is proved by her increaſing and decreaſing in light as ſhe is nearer or farther off from her conjunctions with the Sun. At the ecliptical conjunction, or new Moon, the dark body of the Moon paſſes directly between the Sun and us, which hides that luminary from our ſight, and this conſtitutes an eclipſe of the Sun; but, at an ecliptical oppoſition, or full Moon, the Sun, the Earth, and the Moon, are in one direct and diametrical line; the dark globe of the Earth, being then between the Sun and Moon, deprives the Moon of the Sun's light, whereby ſhe becomes darkened and eclipſed, having no light of her own. The line or way wherein the Moon makes her conſtant periodical revolutions croſſes the ecliptic wherein the Sun moves at an angle of about five degrees; the diſtance of theſe lines conſtitutes the Moon's latitude; and the places in the ecliptic which theſe lines interſect are called the Moon's nodes, or the Dragon's Head and Dragon's Tail. Theſe interſections do not always happen in one place of the ecliptic, but move once through the ſame, contrary to the ſequel or ſucceſſion of the ſigns, in eighteen years and two hundred and twenty-five days.

If the Moon at full be diſtant from the Dragon's Head or Tail more than fifteen degrees, there can be no eclipſe of the Moon; and, when at the time of the change the Moon is more than nineteen degrees diſtant

from the Dragon's Head, according to the ſucceſſion of the ſigns, there can be no eclipſe of the Sun; neither can there be any eclipſe of the Sun, when the Moon at the change is above ſeven degrees from the Dragon's Tail, according to the ſucceſſion of the ſigns, or more than ſeven degrees from the Dragon's Head, contrary to the ſucceſſion of the ſigns.

Eclipſes of the Sun are various both in quantity and quality, being beheld from different parts of the earth; where he will appear partially eclipſed to a ſpectator on the north ſide of his body, and totally to a ſpectator on his ſouth ſide; whilſt to others he will appear at the ſame inſtant not at all eclipſed. The reaſon is, the Sun in his eclipſes is not darkened, but only hidden from our ſight by the interpoſition of the Moon, whoſe various parallaxes produce this diverſity in the Sun's eclipſe.

The eclipſe of the Moon, on the contrary, appears the ſame to all parts of the earth and to all people above whoſe horizon ſhe is at that time elevated; for, when ſhe is deprived of the light of the Sun, ſhe becomes really darkened. To eſtimate the quantities of the eclipſes of either luminary, their diameters are ſuppoſedly divided into twelve equal parts, called digits, becauſe their diameters appear to ſight about a foot in length; ſo that, when the Moon obſcures half the Sun's diameter, he is ſaid to be ſix digits eclipſed.

Amongſt the cœleſtial phenomena, the doctrine of eclipſes takes precedency; becauſe from their obſervations the primary foundation of the whole body of aſtronomy is demonſtrated and confirmed. Hence the ſolar eclipſes manifeſt the Moon to be lower and leſs than the Sun; the lunar eclipſes prove that the earth is not founded infinitely below us, but that the heavens under us are diſtant from the earth as far upwards, in reſpect of our antipodes, as they are here; and conſequently that the Earth is not cubical, pyramidal, nor cylindrical, but on every ſide perfectly round, or terminated by a globular figure; not only becauſe the ſhadow of the earth in the Moon's body is always and on every part obſerved to be round, but alſo becauſe thoſe who live eaſtward number more hours from their meridian, for the beginning or ending of any eclipſe, than ſuch as live weſtward, proportionably to their diſtance.

Lunar eclipſes demonſtrate the ſhadow of the earth to be conical, terminating in a ſharp point; and the ſame place of the Moon's tranſits to be ſometimes thicker, and at other times more ſlender, notwithſtanding a certain rule and reſpect had to the Sun's motion; and conſequently

 that

that the Sun is moved, or ſo ſeems to be, in an eccentrical orb. By eclipſes of the Moon we alſo know that the Earth is moved or placed in the middle of the zodiac, becauſe ſhe is eclipſed in the oppoſite places thereof. The lunar eclipſes beſt diſcover to us the longitude of places upon the Earth, and aſſure us that the Earth and Water make but one globe; and the oriental and occidental eclipſes of the Moon inform us, that one half of the world is always viſible, and that one half of the zodiac riſes above the horizon.

The true and certain place of the Moon cannot be had by any inſtrument whatſoever, becauſe of her parallaxes. Nature, or rather the God of nature, hath therefore ſupplied this defect by her eclipſes; for the Moon poſited in *mediis tenebris* is then underſtood to be oppoſite to the Sun, by which means the motions and mutations of the Moon are found out and rationally demonſtrated. And, as by lunar eclipſes we gather, that the Sun is far greater than the Earth, and the Moon leſs, ſo by ſolar eclipſes we demonſtrate the diſtance of the luminaries from the Earth to be different, and to be moved in eccentrics or epicycles; whence a rule is found for meaſuring the diſtances of the Sun and Moon from the Earth, together with the magnitudes of the ſeveral celeſtial bodies.

Eclipſes of the Moon only happen in the time of full Moon; becauſe it is only then the earth is between the Sun and Moon: nor do they happen every full Moon, by reaſon of the obliquity of the Moon's way with reſpect to the Sun's; but only in thoſe full Moons which happen either in the nodes, or very near them, where the aggregate of the apparent ſemidiameters of the Moon and the Earth's ſhadow is greater than the latitude of the Moon, or the diſtance between their centres.

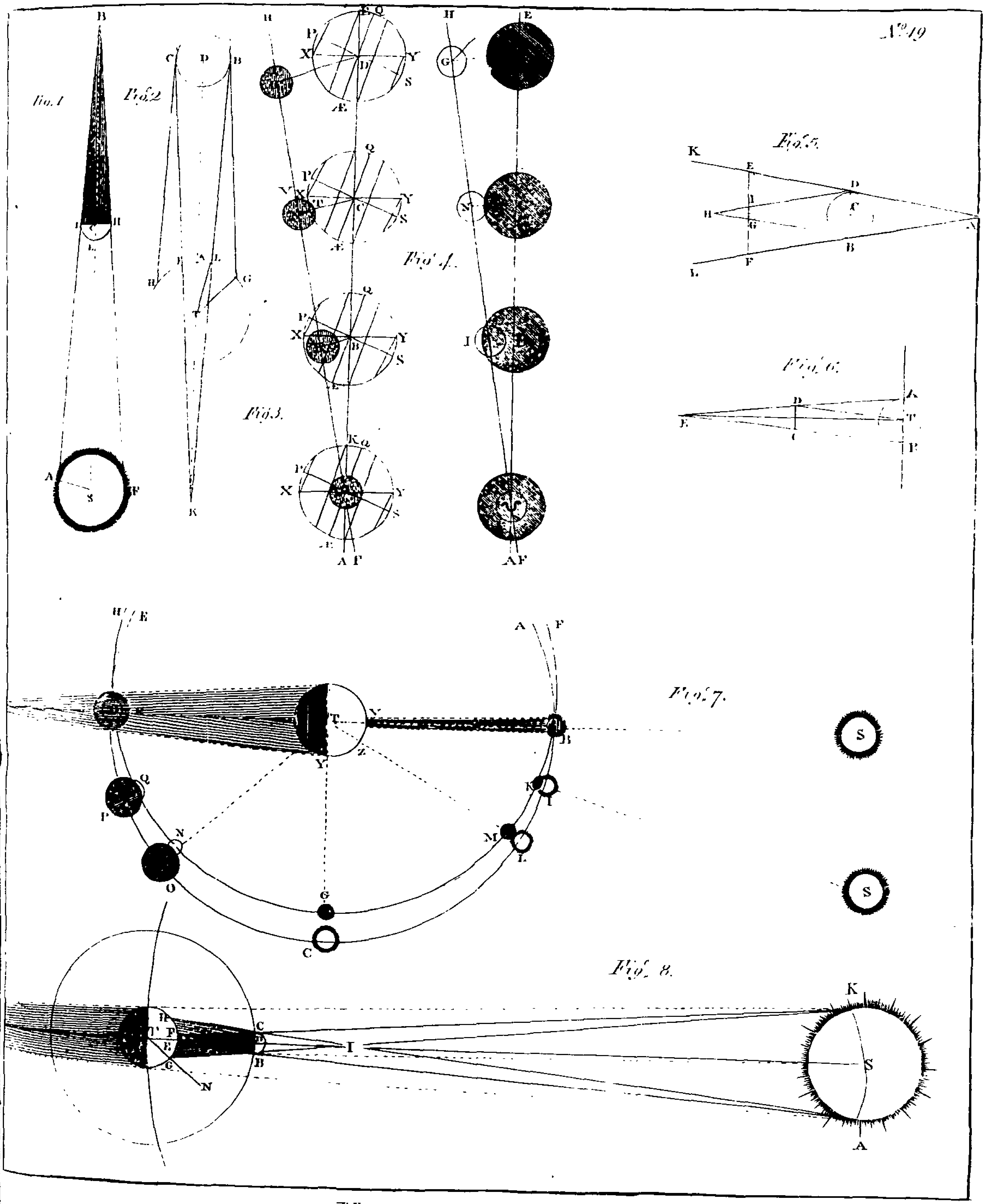
The moſt conſiderable circumſtances in the eclipſes of the Moon are, That, as the ſum of the ſemidiameters of the Moon and Earth's ſhadow is greater than the aggregate of the ſemidiameters of the Sun and Moon, (that, when leaſt, being $5\frac{1}{2}$; and this, when greateſt, ſcarce $3\frac{1}{8}$;) it is evident, lunar eclipſes may happen in a greater latitude of the Moon and at a greater diſtance from the nodes, and, conſequently, are more often obſerved, in any one part of the Earth, than ſolar ones; though, with reſpect to the whole Earth, the latter are more frequent than the former, becauſe the Sun's ecliptic limits are greater than the Moon's.

Total eclipſes of the Moon, and thoſe of the longeſt duration, happen in the very nodes of the ecliptic; becauſe the ſection of the Earth's ſhadow,

ſhadow, then falling on the Moon, is conſiderably greater than her diſk. There may likewiſe be total eclipſes within a little diſtance of the nodes; but the farther, the leſs their duration; farther off ſtill, there are only partial ones, and at length none at all, as the latitude and the ſemidiameter of the Moon, together, are either leſs, equal to, or greater, than the ſemidiameter of the ſhadow. A lunar eclipſe, that is both total and central, laſts three hours fifty-ſeven minutes ſix ſeconds from the beginning to the end, when the Moon is in her apogee, and three hours thirty ſeven minutes twenty-ſix ſeconds when in perigee; her horary motion being ſloweſt in the former caſe, and quickeſt in the latter. In all lunar eclipſes, the eaſtern ſide is what firſt immerges, and alſo emerges; ſo that, though, at firſt, the Moon be more weſterly than the Earth's ſhadow, yet, her proper motion being ſwifter than the ſame, ſhe overtakes and outgoes it. The Moon, even in the middle of an eclipſe, has uſually a faint appearance of light, reſembling tarniſhed copper; which Gaſſendus, Ricciolus, Kepler, &c. attribute to the light of the Sun, refracted by the Earth's atmoſphere, and tranſmitted thither. And laſtly, ſhe grows ſenſibly paler, and dimmer, before ſhe enters within the Earth's ſhadow; which is attributed to the Earth's penumbra.

Solar eclipſes, being an occultation of the Sun's body, occaſioned by an interpoſition of the Moon between the Sun and the Earth, are diſtinguiſhed, like thoſe of the Moon, into total and partial, &c. to which muſt be added a third ſpecies, called annular. As the Moon is found to have a parallax of latitude, eclipſes of the Sun only happen when the latitude of the Moon, viewed from the Earth, is leſs than the aggregate of the apparent ſemidiameters of the Sun and Moon. Solar eclipſes therefore only happen when the Moon is in conjunction with the Sun, in or near the nodes, i. e. at the new Moons. Conſeqnently, the memorable eclipſe of the Sun, at our Saviour's paſſion, happening at the time of full Moon, when the Sun and Moon are in oppoſition, was preternatural. Beſides, the darkneſs in total eclipſes of the Sun never laſts above four minutes in one place; whereas the darkneſs at the crucifixion laſted three hours, (Matthew xxviii. 15.) and overſpread at leaſt all the land of Judea.

But, though the new Moon paſs between the Sun and the Earth, yet is not there an eclipſe every Moon; becauſe the Moon's way is not preciſely under the ecliptic, but is placed obliquely thereto, interſecting it twice in every period. So that eclipſes can only be occaſioned in ſuch new Moons as happen in theſe interſections or nodes, or very near them. In the nodes, when the Moon has no viſible latitude, the occultation is total,



ECLIPSES

total; and with ſome continuance, when the diſk of the Moon in perigæo appears greater than that of the Sun in apogæo, and its ſhadow is extended beyond the ſurface of the Earth; and without continuance, at moderate diſtances, when the cuſp or point of the Moon's ſhadow barely touches the Earth. Laſtly, out of the nodes, but near them, the eclipſes are partial. The ſolar eclipſes, though total, can never be univerſal or viſible throughout the whole hemiſphere which the Sun is then above, becauſe the Moon's dark ſhadow covers only a ſpot on the Earth's ſurface, about one hundred and eighty Engliſh miles broad, when the Sun's diſtance is greateſt, and the Moon's leaſt; and thus far only can the total darkneſs extend; which explains the reaſon why a ſolar eclipſe does not appear the ſame in all parts of the Earth where it is ſeen; but, when in one place it is total, in another it is only partial. And farther, that the Moon, when in her apogee, appears much leſs than the Sun, as happens moſt ſenſibly when he is in perigæo; the cuſp of the lunar ſhadow not then reaching the Earth, ſhe becomes in a central conjunction with the Sun, yet not able to cover his diſk, but lets his whole limb appear like a lucid ring or bracelet; this is hence called an annular eclipſe; which does does not happen at the ſame time in all places where it is ſeen; but appears more early to the weſtern parts, and later to the eaſtern, as will hereafter be further explained.

In moſt ſolar eclipſes the Moon's diſk is covered with a faint dawning light; which is attributed to the reflection of the light from the illuminated part of the Earth. In total eclipſes of the Sun, the Moon's limb is ſeen ſurrounded by a pale circle of light; which ſome aſtronomers take for a manifeſt indication of a lunar atmoſphere; but which is probably the atmoſphere of the Sun; becauſe it has been obſerved to move equally with the Sun, and not with the Moon; and beſides, the Moon is now generally believed to have no atmoſphere. The foregoing obſervations will be further illuſtrated by what follows.

To project ECLIPSES of the SUN.

The Sun, being a luminous body, vaſtly larger than the Earth, will enlighten ſomewhat more than one half of it, and cauſe it to project a long conical ſhadow, as repreſented in the annexed plate, *fig.* 1 where S is the Sun, E the Earth, and H B D its conical ſhadow.

The height or length of this ſhadow, at the mean diſtance of the Sun, may be found by this proportion: as the tangent of the angle C B D, or

the ſemi-diameter under which the Sun appears at the Earth, viz. A S =16′: radius : : 1 : the length of the ſhadow C B=214.8 ſemi-diameters of the Earth: but, when the Sun is at its greateſt diſtance, the length of the ſhadow C B will be equally to 217 of theſe ſemi-diameters. Hence it appears, that, though the height of the ſhadow is near three times as great as the mean diſtance of the Moon, yet it falls far ſhort of the diſtance of Mars, and conſequently can eclipſe none of the heavenly bodies but the Moon.

To find the height of the Moon's ſhadow, ſuppoſed to be ſimilar to that of the Earth, and conſequently proportional to the diameters of the baſes, the proportion is, as the diameter of the Earth 100 is to the diameter of the Moon 28, ſo is the mean altitude of the Earth's ſhadow 214.8 to the altitude of that of the Moon 60.144 of the Earth's ſemi-diameters. The ſhadow of the Moon therefore will juſt reach the Earth in her mean diſtance, which it cannot do in her apogee; but in her perigee it will involve a ſmall part of the Earth's ſurface.

Beſides the dark-ſhadow of the Moon, there is another, called the penumbra; to repreſent which let S, *fig.* 8. be the Sun, T the Earth, D the Moon, K C F and A B E the two lines touching the oppoſite limbs of the Sun and Moon; then it is evident that C F E B will be the dark or abſolute ſhadow of the Moon, in which a perſon on the Earth's ſurface, between F and E, is wholly deprived of the Sun's light. Again, let K B G and A C H be two other lines touching the ſides of the Sun and Moon alternately, and interſecting each other at the point above the Moon; then will H C B G, a fruſtrum of the cone G I H, be the penumbra above mentioned, in which a ſpectator on the Earth's ſurface, between F and H, and E and G, will ſee part of the Sun, whilſt the reſt is eclipſed.

To calculate the angle of the cone H I G, draw S B; then, in the oblique triangle B I S, the external angle B I D is equal to both the internal and oppoſite angles I B S and I S B; but I S B, the angle under which the ſemi-diameter appears at the Sun, being inſenſibly ſmall, the angle B I D will be equal to I B S or K B S, equal to the apparent ſemi-diameter of the Sun. Therefore the part of the penumbral cone C I B is equal and ſimilar to the dark ſhadow of the Moon.

Next, to find how much of the Earth's ſurface can be at any time involved in the Moon's dark ſhadow, or the quantity of the arch E F, *fig.* 2, let

Let us ſuppoſe the Sun to be in apogee, and the Moon in perigee; and, in this caſe, the height of the Moon's ſhadow will be about 61 ſemi-diameters, and the diſtance of the Moon about 56; that is, C K=61, D T=56, and T E=2. In this caſe alſo, the half angle of the ſhadow T K E=15′ 50″, as being leaſt of all. Then the proportion is: as 1, or the ſide T E, to the ſide of T K=5; ſo is the ſine of the ſemi-angle TKE=15′50″ to the ſine of the angle T E K=1° 19′ 10″. Wherefore TEK+TKE=ATE=AE=1° 35′; the double of which FE is 3° 10′=190′, or 220 miles, the diameter of the dark ſhadow on the ſurface of the Earth when greateſt.

After a like manner you may find the diameter of the penumbral ſhadow at the Earth, G E F H, *fig.* 8, when greateſt of all, that is, when the Earth is in perihelio, and the Moon in apogee; for then will the Sun's apparent diameter be equal to 16′ 23″=T I G, the greateſt ſemi-angle of the cone; and thence we ſhall find I D=52½ ſemi-diameters of the earth. In this caſe alſo, the diſtance of the Moon from the Earth is D T=64 ſemi-diameters. Therefore as T G=1 to T I=122½, ſo is the ſine of the angle T I G=16″ 23″ to the ſine of the angle I G N=35° 42′. But I G N=T I G+I T G, and therefore I T G=I G N—T I G 35° 25′; the double of which 70° 50′=GEFH=4900 Engliſh miles nearly, for the diameter of the penumbral ſhadow when greateſt.

From the principles of optics it is evident, that, if the plane of the Moon's orbit coincided with that of the earth's orbit, there would neceſſarily be an eclipſe of the Sun every new Moon: thus, if S in *fig.* 7, be ſuppoſed to repreſent the Sun, B the Moon, and T the Earth, ſince the apparent magnitude or diſk of the Sun is nearly the ſame with that of the Moon, it muſt neceſſarily be hid or eclipſed as often as the new Moon came between the Earth and the Sun. But if, as is really the caſe, the Moon's orbit be not in the plane of the ecliptic, but inclined thereto under a certain angle, there may be a new Moon, and yet no eclipſe of the Sun. To illuſtrate this, let A B C D E be a circle in the plane of the ecliptic, deſcribed at the diſtance of the Moon's orbit F G H, interſecting the ſame in the points B and D, and making an angle therewith A B F, whoſe meaſure is the arch G C, as being ninety degreees diſtant from the angular points or nodes B and D. Now it is evident, if the arch G C be ſomewhat greater than the ſum of the apparent ſemidiameters of the Sun and Moon, then at G, and ſome diſtance from G towards B, there may be a new Moon, and yet no eclipſe of the Sun; becauſe, in this caſe, the diſk of the Moon G is too much elevated

or depreſſed above or below the apparent diſk or face of the Sun at C, to touch it, much leſs to hide or eclipſe any part thereof. But, at a certain point M in the Moon's orbit, the Moon will have a latitude only equal to the ſum of the ſemidiameters of the Sun and Moon; and, therefore, when the Moon is new in that point, ſhe will appear, to a ſpectator in the point Z, to touch the Sun only; from whence this point M is called the ecliptic limit, inaſmuch as it is impoſſible there ſhould happen a new Moon, in any part between it and the node B on each ſide, without eclipſing the Sun leſs or more: thus, in the figure, may be ſeen a partial eclipſe at K, and a total one in the node itſelf B, at which point only, total eclipſes can happen.

What has hitherto been ſaid ragards the phenomena of an eclipſe of the Sun, as they appear to a ſpectator on the Earth's ſurface, in whoſe zenith the Moon then is, and where there is no refraction to alter the true latitude of the Moon: but, when the Moon has any latitude, there the proceſs of calculating the appearances of a ſolar eclipſe will be ſomewhat more complex, on account of the variation of the Moon's latitude and longitude for every different altitude, and conſequently for every moment of the eclipſe.

The beſt way of repreſenting a ſolar eclipſe is by a projection of the earth's diſk and of the ſection of the dark and penumbral ſhadows, as they appear, or would appear, to a ſpectator at the diſtance of the Moon in a right line joining the centres of the Sun and the earth. In order to this, we are to find the dimenſions of the apparent ſemi-diameters of the earth, dark ſhadow, and penumbra, at the diſtance of the Moon. As to the firſt, viz. the earth's ſemi-diameter, it is equal to the Moon's horizontal parallax. That of the dark ſhadow is thus eſtimated: let C in *fig.* 5. be the center of the Moon, D B its diameter, D H B its dark ſhadow, and K A L the penumbral cone. Then let E F be the diameter of the penumbra at the earth, and I G that of the dark ſhadow, and draw C G and C E; then is the angle C G B=B H C+G C H, and ſo G C H=B G C—B H C; that is, the apparent ſemi-diameteter of the dark ſhadow is equal to the difference between the apparent ſemi-diameters of the Sun and Moon. And in like manner the angle E C H=D E C+D A C; that is, the apparent ſemi-diameter of the penumbra, at the earth, is equal to the ſum of the apparent ſemi-diameters of the Moon and Sun. Now the ſemi-diameters of the Sun and Moon, and alſo the Moon's horizontal parallax, are already calculated for their various diſtances from the Earth, and for the leaſt, mean,

and

and greateſt eccentricity of the lunar orbit, in the aſtronomical tables. Therefore, let A E, *fig.* 3, repreſent a ſmall portion of the annual orbit, and F H the viſible path of the center of the lunar ſhadows, which will exactly correſpond to the poſition of the Moon's orbit with reſpect to the ecliptic in the heavens; ſo that the point of interſection ☊ will be the node, and the angle H ☊ E the angle of inclination of the lunar orbit to the plane of the ecliptic, which is about 5°. Hence, if Æ P Q S repreſent the diſk of the Earth, according to the orthographic projection, in the ſeveral places ☊, B, C, D, whoſe ſemidiameter is made equal to the number of minutes in the Moon's horiſontal parallax at the time of the eclipſe; and if, in the path of the ſhadows in the points ☊, R, N, G, we deſcribe a ſmall circle whoſe ſemidiameter is equal to the difference of the ſemidiameters of the Sun and Moon, that will be the circular ſection of the Moon's dark ſhadow at the diſtance of the Earth: again, if a circle is deſcribed on the ſame center, with a ſemidiameter equal to the ſum of the ſemidiameters of the Sun and Moon, it will repreſent the penumbral ſhadow, expreſſed by the dotted area. Here then it is evident, that if the Moon, when new, be at the diſtance ☊ G from the node, the penumbral ſhadow will not fall near the Earth's diſk, and ſo there cannot poſſibly happen an eclipſe. Again, if the Moon's diſtance from the node be equal to ☊ N, the penumbral ſhadow will juſt touch the diſk, and conſequently ☊ C is the ecliptic limit, which may be found by the following analogy, viz. as the ſine of the angle N ☊ C = 5° 30′ (the angle of inclination of the lunar orbit to the plane of the ecliptic) is to the radius = 90°, ſo is the logarithm of the ſide N C = T C + N T = 62′ 10″ + 16′ 52″ + 16′ 23″ = 95′ 25″ to the logarithm of the ſide ☊ C equal to the ecliptic limit, which is found to be 16° 36′, beyond which diſtance from the node ☊ there can be no eclipſe; and within that diſtance, if the Moon be new, the ſhadow will fall on ſome part of the Earth's diſk, as at B; where all thoſe places over which the ſhadows paſs will ſee the Sun eclipſed, in part only, by the dotted penumbral ſhadow; but the Sun will be centrally eclipſed in all places over which the center of the ſhadows paſs, and, if the Moon be new in the node, then will the center of the ſhadows paſs over the center of the diſk, as repreſented at ☊. In this caſe, if the apparent diameter of the Moon be greater than that of the Sun, the face of the Sun will be wholly eclipſed to all places over which the center of the ſhadow paſſes; but, if not, the Sun will only be centrally eclipſed, his circumference appearing in the form of a bright annulus, or luminous ring, the width whereof will be equal to the difference of the diameters of the luminaries. The diſk of the Earth, here projected, repreſents the caſe of an eclipſe on an equinoctial day; A K being the eclip-

tic, Æ Q the equator, X Y the axis of the ecliptic, P S the axis of the equator, P and S the north and ſouth poles, &c. By this projection the paſſage of ſhadows over the Earth's diſk may be exhibited for any place of the Sun, or declination of the Moon.

To find the digits eclipſed, add the apparent ſemidiameters of the luminaries into one ſum; from which ſubtract the Moon's apparent latitude; the remainder are the ſcruples, or parts of the diameter, eclipſed. Then ſay, as the ſemidiameter of the Sun is to the ſcruples eclipſed, ſo are 6 digits reduced into ſcruples, or 360 ſcruples, to the digits eclipſed.

To determine the duration of a ſolar eclipſe, find the horary motion of the Moon from the Sun, for one hour before the conjunction, and another hour after: then ſay, as the former horary motion is to the ſeconds in an hour, ſo are the ſcruples of half-duration to the time of immerſion; and, as the latter horary motion is to the ſame ſeconds, ſo are the ſame ſcruples of half-duration to the time of immerſion. Laſtly, adding the time of immerſion to that emerſion, the aggregate is the total duration.

As different authors follow very different hypotheſes, with regard to the apparent diameters of the luminaries, and the greateſt parallax of latitude, they differ much in aſſigning the bounds at which ſolar eclipſes happen. Ptolomy makes the utmoſt bounds of eclipſes at $19^{\circ}\ 25'$ diſtance from the node; Copernicus, at $19^{\circ}\ 12'$; Tycho, at $18^{\circ}\ 25'$; Kepler, at $17^{\circ}\ 16'$; Ricciolus, at $18^{\circ}\ 49'$. Though Ptolomy, in other places, judges 16° 42 minutes diſtance from the node neceſſary; Copernicus, $16^{\circ}\ 25'$; Tycho, $17^{\circ}\ 9'$; Kepler, $15^{\circ}\ 55'$; and Ricciolus, $15^{\circ}\ 58'$. Aſtronomers have generally aſſigned 17° as the limit of ſolar eclipſes; but this admits of ſome variation: for, in apogeal eclipſes, the ſolar limit is but $16\frac{1}{2}$ degrees, and in perigeal eclipſes it is $18\frac{1}{2}^{\circ}$.

The Moon's apparent diameter when largeſt, exceeds the Sun's when leaſt, only one minute and thirty-eight ſeconds of a degree; and, in the greateſt ſolar eclipſe that can happen at any time and place, the total darkneſs can continue no longer than whilſt the Moon is moving through $1'\ 38''$ from the Sun in her orbit, which is about three minutes thirteen ſeconds of an hour; for the motion of the ſhadow on the Earth's diſk is equal to the Moon's motion from the Sun, which, on account of the Earth's revolution on its axis towards the ſame way, or eaſtward, is about $30\frac{1}{2}$ minutes of a degree every hour, at a mean rate; but ſo much of the Moon's orbit is equal to $30\frac{1}{2}^{\circ}$ of a great circle on the Earth, becauſe the

circumference

circumference of the Moon's orbit is 60 times that of the Earth; and therefore the Moon's ſhadow goes 30½ degrees, or 1830 geographical miles, in an hour, or 30½ miles in a minute.

To find the Moon's apparent latitude at the beginning and end of an eclipſe, it requires only to ſubtract, from the argument of the Moon's latitude computed for the time of the apparent conjunction, the ſcruples of half-duration, together with the motion of the Sun, anſwering to the time of incidence; the remainder is the argument of latitude, at the beginning of the eclipſe. To the ſame ſum add the ſame ſcruples, together with the Sun's motion anſwering to the time of emergence; the aggregate is the argument of latitude, at the end of the eclipſe. The argument of the latitude given, the Moon's true latitude is found after the common manner.

To calculate eclipſes of the Sun, the following data are requiſite: 1. Find the mean new Moon, and thence the true one; together with the place of the luminaries for the apparent time of the true one. 2. For the apparent time of the true new Moon, compute the latitude ſeen. 3. For the apparent time of the new Moon ſeen, compute the latitude ſeen. 4. Thence determine the digits eclipſed. 5. Find the times of the greateſt darkneſs, immerſion, and emerſion. 6. Thence determine the beginning, and ending, of the eclipſe. From the preceding problems it is evident, that all the trouble and fatigue of the calculus ariſe from the parallaxes of longitude and latitude; without which, the calculation of ſolar eclipſes would be the ſame with that of lunar ones. But eclipſes, both of the Sun and Moon, might be calculated with much more eaſe and expedition by the help of a book of tables, publiſhed for that purpoſe by Mr. Ferguſon, to which I beg leave to refer the reader, to ſave him the trouble of ſuch calculations.

To Project ECLIPSES of the MOON.

Theſe being occaſioned by the immerſion of the Moon into the Earth's ſhadow, all that we have to do, in order to delineate a lunar eclipſe, is to calculate the apparent ſemidiameter of the Earth's ſhadow at the Moon. Thus, let A B, *fig.* 6, repreſent the Earth, T its center, A E B its conical ſhadow, D C the diameter of a ſection thereof at the Moon; and, drawing D T, we have the outward angle A D T = D T E + D E T; ſo that D T E = A D T — D E T; that is, the angle D T E, under which the ſemidiameter of the Earth's ſhadow appears at the diſtance of the

Moon, is equal to the difference between the Moon's horiſontal parallax A D T, and the ſemidiameter of the Sun D E T. If, therefore, A E, *fig.* 4, repreſent the path of the Earth's ſhadow at the diſtance of the Moon near the node ☊, and F H a part of the lunar orbit, and the ſection of the Earth's ſhadow be delineated at ☊, B, C, D; and the full Moon at ☊, I, N, G; then it is evident there can be no eclipſe of the Moon, where the leaſt diſtance of the centers of the Moon and ſhadow exceeds the ſum of their ſemidiameters, as at D. But, where this diſtance is leſs, the Moon muſt be eclipſed either in part or wholly, as at B and ☊; in which latter caſe the Moon paſſes over the diameter of the ſhadow. But in a certain poſition of the ſhadow, as at C, the leaſt diſtance of the centers, N C, is equal to the ſum of the ſemidiameters; and conſequently ☊ C is the ecliptic limit for lunar eclipſes: to find which, we have this analogy, as the ſine of the angle N ☊ C=5° (the inclination of the Moon's orbit to the plane of the ecliptic) is to the radius, ſo is the logarithm of the ſide N C=63′ 12″ to the logarithm of the ſide ☊ C=12° 5′= the ecliptic limit. Hence, if the Moon be at a leſs diſtance from the node ☊ than 12° 5′, there will be an eclipſe; otherwiſe none can happen.

If the Earth had no atmoſphere, the ſhadow would be abſolutely dark, and the Moon involved in it quite inviſible; but, by means of the atmoſphere, many of the ſolar rays are refracted into and mixed with the ſhadow, whereby the Moon is rendered viſible in the midſt of it, and of a duſky red colour.

For calculating eclipſes of the Moon, the following data are neceſſary: 1. Her true diſtance from the node, at the mean conjunction. 2. The true time of the oppoſition, together with the true place of the Sun and Moon, reduced to the ecliptic. 3. The Moon's true latitude, at the time of the true conjunction, and the diſtance of the luminaries from the Earth: alſo their horiſontal parallaxes, and apparent ſemidiameters. 4. The true horary motions of the Moon and Sun, and the apparent ſemidiameter of the Earth's ſhadow. With theſe data it is eaſy to find the duration, beginning, middle, and quantity, of eclipſes.

The number of eclipſes, of both luminaries, in any year, cannot be leſs than two nor more than ſeven; the moſt uſual number is four, and it is rare to have more than ſix. The reaſon is obvious; becauſe the Sun paſſes by both the nodes but once a year, unleſs he paſſes by one of them in the beginning of the year; in which caſe he will paſs by the

ſame

ſame again a little before the year be finiſhed; becauſe the nodes move backwards 19½ deg. every year, and therefore the Sun will come to either of them 173 days after the other. And, if either node is within 17° of the Sun at the time of the new Moon, the Sun will be eclipſed; and at the ſubſequent oppoſition, the Moon will be eclipſed in the other node, and come round to the next conjunction before the former node is 17° beyond the Sun, and eclipſe him again. When three eclipſes happen about either node, the like number generally happen about the oppoſite; as the Sun comes to it 173 days afterwards, and ſix lunations contain only four days more. Thus there may be two eclipſes of the Sun, and one of the Moon, about each of the nodes. But, if the Moon changes in either of the nodes, ſhe cannot be near enough the other node at the next full to be eclipſed; and in ſix lunar months afterwards ſhe will change near the other node; in which caſe there can be only two eclipſes in a year, both of the Sun.

In two hundred and twenty-three mean lunations, after the Sun, Moon, and nodes, have been once in a line of conjunction, they return ſo nearly to the ſame ſtate again, as that the ſame node, which was in conjunction with the Sun and Moon at the beginning of the firſt of theſe lunations, will be within twenty-eight minutes twelve ſeconds of a degree of a line of conjunction with the Sun and Moon again, when the laſt of theſe lunations is completed. And therefore, in that time, there will be a regular ſucceſſion or return of the ſame eclipſes for many ages.—In this period (which was firſt diſcovered by the Chaldeans) there are eighteen Julian years eleven days ſeven hours forty-three minutes twenty ſeconds, when the laſt day of February in leap-years is four times included: but, when it is five times included, the period conſiſts of only eighteen years ten days ſeven hours forty-three minutes twenty ſeconds; conſequently, if to the mean time of an eclipſe, either of the Sun or Moon, you add eighteen Julian years eleven days ſeven hours forty-three minutes twenty ſeconds, when the laſt day of February in leap-years comes in four times, or a day leſs when it comes in five times, you will have the mean time of the return of the ſame eclipſe.

But the falling back of the line of conjunctions or oppoſitions of the Sun and Moon twenty-eight minutes twelve ſeconds with reſpect to the line of the nodes in every period, will wear it out in proceſs of time; and after that it will not return again in leſs than twelve thouſand four hundred and ninety-two years. Theſe eclipſes of the Sun which happen about the aſcending node, and begin to come in at the North Pole of the Earth, will go a little ſoutherly at each return, till they go quite off the Earth at the South Pole; and thoſe which happen about the deſcending

node, and begin to come in at the South Pole of the Earth, will go a little northerly at each return, till at laſt they quite leave the Earth at the North Pole.

To exemplify this matter, it may not here be amiſs to examine ſome of the moſt remarkable circumſtances of the returns of an eclipſe mentioned in Mr. Smith's ingenious Diſſertation, which happened July 14, 1748, about noon. This eclipſe, after traverſing the voids of ſpace from the Creation, at laſt began to enter the *Terra Auſtralis Incognita* about eighty years after the Conqueſt, which was the laſt of King Stephen's reign; every Chaldean period, namely, eighteen years eleven days ſeven hours forty-three minutes twenty ſeconds, as above-mentioned, it has conſtantly crept more northerly, but was ſtill inviſible in Britain before the year 1622; when, on the 30th of April, it began to touch the ſouth parts of England about two in the afternoon; its central appearance riſing in the American South Seas, and traverſing Peru and the Amazons country, through the Atlantic ocean into Africa, and ſetting in the Ethiopian continent, not far from the beginning of the Red Sea.

Its next viſible period was after three Chaldean revolutions, in 1676, on the firſt of June, riſing central in the Atlantic ocean, paſſing us about nine in the morning, with four digits eclipſed on the under limb; and ſetting in the gulph of Cochinchina in the Eaſt Indies.

It being now near the Solſtice, this eclipſe was viſible the very next return in 1694, in the evening; and in two periods more, which was in 17[illegible]5, on the 4th of July, was ſeen above half eclipſed juſt after Sun-riſe, and obſerved both at Wirtemberg in Germany and Pekin in China, ſoon after which it went off. Eighteen years more afforded us this eclipſe again, which happened the 14th of July, 1748. The next viſible return happened on the 25th of July, 1762, in the evening, about four digits eclipſed; and, after two periods more, it will be viſible again, on the 16th of Auguſt, 1802, early in the morning, about five digits, the center coming from the north frozen continent, by the capes of Norway, through Tartary, China, and Japan, to the Ladrone Iſlands, where it goes off.

Again, in 1820, Auguſt 26, betwixt one and two there will be another return of this eclipſe at London, about 10 digits; but, happening ſo near the Equinox, the center will leave every part of Britain to the Weſt, enter Germany at Embden, paſſing by Venice, Naples, and Grand Cairo, and ſet in the gulph of Baſſora near that city. It will be no more viſible till 1874, when five digits will be obſcured (the center being now about to leave the Earth) on September 28. In 1892, the Sun will go down eclipſed

eclipſed at London; and again, in 1928, the paſſage of the center will be in the *expanſum*, though there will be two digits eclipſed at London, October the 31ſt of that year; and about the year 2090 the whole penumbra will be worn off; whence no more returns of this eclipſe can happen till after a revolution of ten thouſand years.

From theſe remarks on the entire revolution of this eclipſe, we may gather, that a thouſand years, more or leſs, (for there are ſome irregularities that may protract or lengthen this period 100 years,) complete the whole terreſtrial phenomena of any ſingle eclipſe: and ſince twenty periods of fifty-four years each, and about thirty-three days, comprehend the entire extent of their revolution, it is evident that the times of the returns will paſs through a circuit of one year and ten months, every Chaldean period being ten or eleven days later, and of the equable appearances about thirty-two or thirty-three days. Thus, though this eclipſe happens about the middle of July, no other ſubſequent eclipſe of this period will return to the middle of the ſame month again, but wear conſtantly each period ten or eleven days forward, and at laſt appear in winter, but then it begins to ceaſe from affecting us.

Another concluſion from this revolution may be drawn, that there will ſeldom be any more than two great eclipſes of the Sun in the interval of this period, and theſe follow ſometimes next return, and often at greater diſtances. That of 1715 returned again in 1733 very great; but this preſent eclipſe will not be great till the arrival of 1820, which is a revolution of four Chaldean periods: ſo that the regulations of their circuits muſt undergo new computations to aſſign them exactly.

Nor do all eclipſes come in at the South Pole; that depends altogether on the poſition of the lunar nodes, which will bring in as many from the *expanſum* one way as the other: and ſuch eclipſes will wear more ſoutherly by degrees, contrary to what happens in the preſent caſe.

The eclipſe, for example, of 1736, in September, had its center in the *expanſum*, and ſet about the middle of its obſcurity in Britain; it will wear in at the North Pole, and in the year 2600, or thereabouts, go off in the *expanſum* on the ſouth ſide of the Earth.

The eclipſes therefore which happened about the creation are little more than half way yet of their ethereal circuit; and will be 4000 years before they enter the Earth any more. This grand revolution ſeems to have been entirely unknown to the ancients.

It is particularly to be noted, that eclipſes which have happened many centuries ago will not be found by our preſent tables to agree exactly with ancient obſervations, by reaſon of the great Anomalies in the lunar motions; which appears an inconteſtible demonſtration of the non-eternity of the univerſe. For it ſeems confirmed by undeniable proofs, that the Moon now finiſhes her period in leſs time than formerly, and will continue by the centripetal law to approach nearer and nearer the Earth, and to go ſooner and ſooner round it: nor will the centrifugal power be ſufficient to compenſate the different gravitations of ſuch an aſſemblage of bodies as conſtitute the ſolar ſyſtem, which would come to ruin of itſelf, without ſome new regulation and adjuſtment of their original motions. There are two ancient eclipſes of the Moon, recorded by Ptolomy from Hipparchus, which afford an undeniable proof of the Moon's acceleration. The firſt of theſe was obſerved at Babylon, Dec. 22, the year before Chriſt 383: when the Moon began to be eclipſed about half an hour before the Sun roſe, and the eclipſe was not over before the Moon ſet: but, by moſt of our Aſtronomical Tables, the Moon was ſet at Babylon half an hour before the eclipſe began; in which caſe, there could have been no poſſibility of obſerving it. The ſecond eclipſe was obſerved at Alexandria, Sept. 22, the year before Chriſt 201; where the Moon roſe ſo much eclipſed, that the eclipſe muſt have begun about half an hour before ſhe roſe: whereas, by moſt of our Tables, the beginning of this eclipſe was not till about ten minutes after the Moon roſe at Alexandria. Had theſe eclipſes begun and ended while the Sun was below the horiſon, we might have imagined, that, as the ancients had no certain way of meaſuring time, they might have been ſo far miſtaken in the hours that we could not have laid any ſtreſs on their accounts. But, as in the firſt eclipſe the Moon was ſet, and conſequently the Sun riſen, before it was over; and in the ſecond eclipſe the Sun was ſet and the Moon not riſen till ſome time after it began: theſe are ſuch circumſtances as the obſervers could not poſſibly be miſtaken in. Mr. Struyk, in his catalogue, notwithſtanding the expreſs words of Ptolomy, puts down theſe two eclipſes as obſerved at Athens; where they might have been ſeen as above without any acceleration of the Moon's motion: Athens being twenty deg. Weſt of Babylon, and ſeven deg. Weſt of Alexandria. We are credibly informed, from the teſtimony of the ancients, that there was a total eclipſe of the Sun predicted by Thales to happen in the fourth year of the 48th † Olympiad, either at Sardis or Mi-

† Each Olympiad began at the time of full Moon next after the Summer Solſtice, and laſted four years, which were of unequal lengths, becauſe the time of full Moon differs eleven days every year: ſo that they might ſometimes begin on the next day after the Solſtice, and at other times not till four weeks after it. The firſt Olympiad began in the year of the Julian period 3938, which was 776 years before the firſt year of Chriſt, or 775 before the year of his birth; and the laſt Olympiad, which was the 293d, began A. D. 393. At the expiration of each Olympiad, the Olympic Games were celebrated in the Elean fields, near the river Alpheus in the Peloponneſus (now Morea), in honour of Jupiter Olympus. See Strachius's Brev. Chron. p. 247—251.

letus

Ketus in Aſia, where *Thales* then reſided. That year correſpon ds to the 585th year before Chriſt; when accordingly there happened a very ſignal eclipſe of the Sun, on the 28th of May, anſwering to the preſent 10th of that month, central though North America, the ſouth parts of France, Italy, &c. as far as Athens, or the iſles in the *Ægean* Sea; which is the fartheſt than even the Caroline tables carry it; and conſequently make it inviſible to any part of Aſia, in the total character; though I have good reaſons to believe that it extended to Babylon, and went down central over that city. We are not however to imagine, that it was ſet before it paſſed Sardis and the Aſiatic towns, where the predictor lived; becauſe an inviſible eclipſe could have been of no ſervice to demonſtrate his ability in aſtronomical ſciences to his countrymen, as it could give no proof of its reality.

The reader may probably find it difficult to underſtand the reaſon why Mr. Smith ſhould reckon this eclipſe to have been in the 4th year of the 48th Olympiad, as it was only in the end of the third year: and alſo why the 28th of May, in the 585th year before Chriſt, ſhould anſwer to the preſent 10th of that month. But we hope the following explanation will remove theſe difficulties. The month of May (when the Sun was eclipſed) in the 585th year before the firſt year of Chriſt, which was a leap-year, fell in the latter end of third year of the 48th Olympiad; and the fourth year of that Olympiad began at the ſummer ſolſtice following; but perhaps Mr. Smith begins the years of the Olympiad from January, in order to make them correſpond more readily with Julian Years; and ſo reckons the month of May, when the eclipſe happened, to be in the fourth year of that Olympiad. The place or longitude of the Sun at that time was ♉ 29 degrees 43 minutes 17 ſeconds, to which ſame place the Sun returned (after 2300 years, viz.) A. D. 1716, on May 9^d 5^h 6^m after noon: ſo that, with reſpect to the Sun's place, the 9th of May, 1716, anſwers to the 28th of May in the 585th year before the firſt year of Chriſt; that is, the Sun had the ſame longitude on thoſe days.

For a farther illuſtration. *Thucydides* relates, that a ſolar eclipſe happened on a Summer's day in the afternoon, in the firſt year of the Peloponneſian war, ſo great, that the Stars appeared. Rhodius was victor in the Olympic games the fourth year of the ſaid war, being alſo the fourth of the 87th Olympiad, on the 428th year before Chriſt. So that the eclipſe muſt have happened in the 431ſt year before Chriſt; and by computation it appears, that on the 3d of Auguſt there was a ſignal eclipſe which would have paſſed over Athens, central about ſix in the evening, but which our preſent tables bring no farther than the ancient Syrtes on the African coaſt, above 400 miles from Athens; which, ſuffering in that

caſe but 9 digits, could by no means exhibit the remarkable darkneſs recited by this hiſtorian; the center therefore ſeems to have paſſed Athens about ſix in the evening, and probably might go down about Jeruſalem, or near it, contrary to the conſtruction of the preſent tables. I have only mentioned theſe things by way of caution to the preſent Aſtronomers in re-computing ancient eclipſes; and refer them to examine the eclipſe of Nicias, ſo fatal to the Athenian fleet; that which overthrew the Macedonian army, &c.

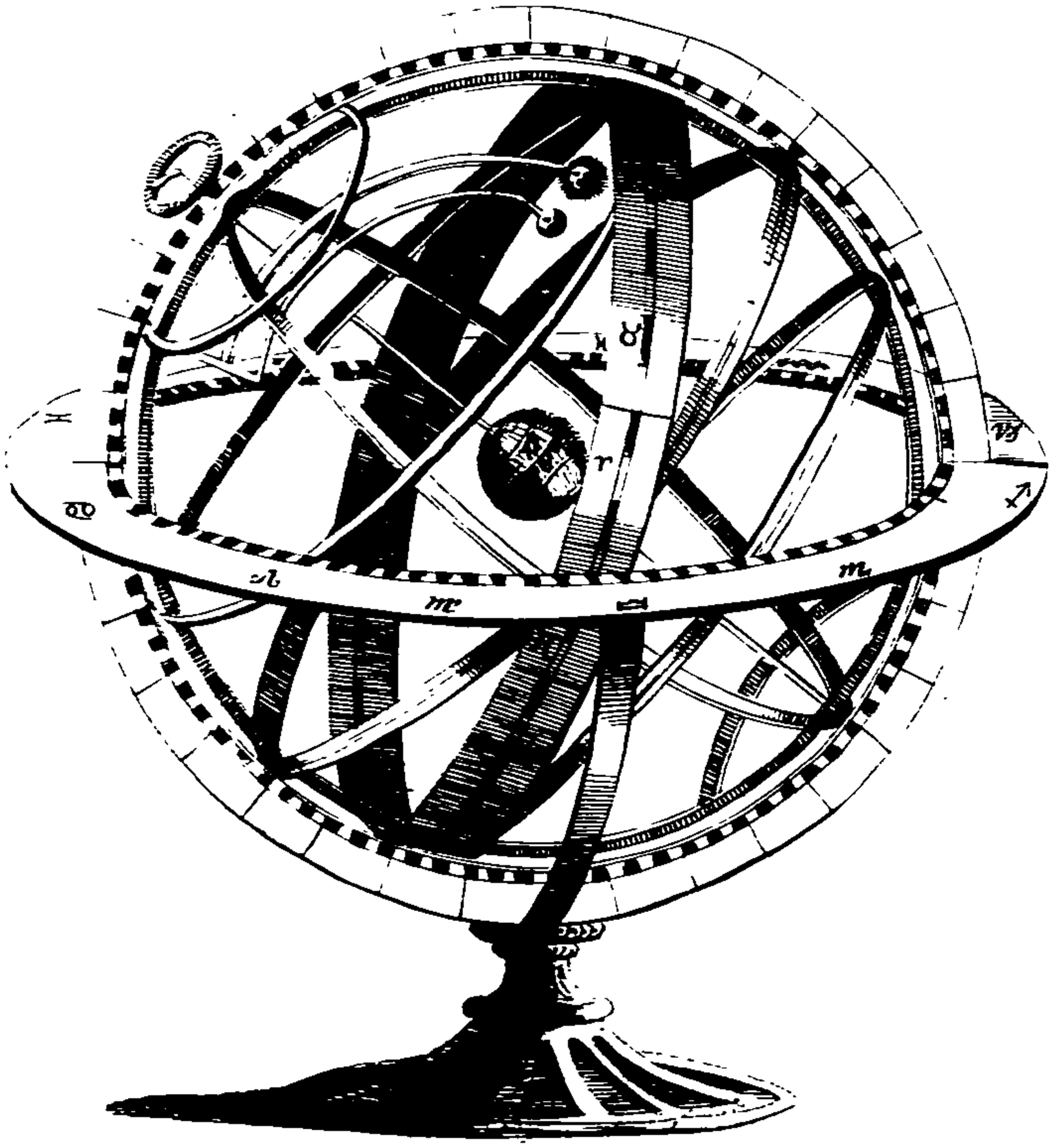
A longer period than the above-mentioned, for comparing and examining eclipſes which happened at long intervals of time, is 557 years 21 days 18 hours 30 minutes 11 ſeconds, in which time there are 6890 mean lunations: and the Sun and node meet again ſo nearly as to be but 11 ſeconds diſtant: but then it is not the ſame eclipſe that returns, as in the ſhorter period above-mentioned.

The following are the *viſible* Eclipſes, which will happen from this time to the end of the preſent century.

Eclipſe of the Sun,	Sept. 16, 1792,	at 11 in the morning.	Partial.
Eclipſe of the Moon,	Feb. 25, 1793,	at 10 at night.	Partial.
Eclipſe of the Sun,	Sept. 5, 1793,	at 3 in the afternoon.	Partial.
Eclipſe of the Sun,	Jan. 31, 1794,	at 4 in the afternoon.	Partial.
Eclipſe of the Moon,	Feb. 14, 1794,	at 11 at night.	Total.
Eclipſe of the Sun,	Aug. 25, 1794,	at 5 in the afternoon.	Partial.
Eclipſe of the Moon,	Feb. 4, 1795,	at 1 in the morning.	Partial.
Eclipſe of the Sun,	July 16, 1795,	at 9 in the morning.	Partial.
Eclipſe of the Moon,	July 31, 1795,	at 8 at night.	Partial.
Eclipſe of the Sun,	June 25, 1797,	at 8 in the evening.	Partial.
Eclipſe of the Moon,	Dec. 4, 1797,	at 6 in the morning.	Partial.
Eclipſe of the Moon,	May 27, 1798,	at 7 at night.	Total.
Eclipſe of the Moon,	Oct. 2, 1800,	at 11 at night.	Partial.

In Aſtronomy, eclipſes of the Moon are of great uſe for aſcertaining the periods of her motions; eſpecially ſuch eclipſes as are obſerved to be alike in all circumſtances, and have long intervals of time between them. In Geography, the longitudes of places are found by eclipſes, as already ſhewn; but for this purpoſe eclipſes of the Moon are more uſeful than thoſe of the Sun, becauſe they are more frequently viſible, and the ſame lunar eclipſe is of equal largeneſs and duration at all places where it is ſeen. In Chronology, both ſolar and lunar eclipſes ſerve to determine exactly the time of any paſt event: for there are ſo many particulars obſervable in

Armillary Sphere



in every eclipſe, with reſpect to its quantity, the places where it is viſible (if of the Sun), and the time of the day or night, that it is impoſſible there can be two ſolar eclipſes in the courſe of many ages which are alike in all circumſtances.

Of the FIGURE and MOTION of the EARTH, the CHANGE of SEASONS, the CAUSE of EARTHQUAKES, &c.

The Earth, among Aſtronomers, is conſidered as one of the primary planets; and its figure was accounted by ſome of the ancients to be like that of an oblong cylinder; by others, of the form of a drum, and by others to be flat. But the moderns have demonſtrated it to be nearly ſpherical, or rather an oblate ſpheroid, flatted towards the poles.

Before we enter more minutely into theſe ſpeculations, it will be proper to deſcribe the various circles of the globe, and to explain its ſeveral diviſions and boundaries, as well imaginary as real, in order to give all my readers a perfect idea of the ſubject before them. For this purpoſe I have ſubjoined a plate of the Armillary Sphere, which is an artificial contrivance, repreſenting the ſeveral circles proper to the theory of the mundane world, put together in their natural order, to eaſe and aſſiſt the imagination in conceiving the conſtitution of the ſpheres, and the various phenomena of the celeſtial bodies. For this purpoſe the Earth is placed in the centre, pierced by a line ſuppoſed to be its axis, the upper point of which is fixed in the arctic or north pole, and the lower extremity in the antarctic or ſouth pole; whence the two ſmall circles deſcribed near theſe points are called the arctic and antarctic circles. The outer circle, in which the axis or poles of the world are fixed, repreſents the meridian, or ſuppoſed line over any given place, to which when the Sun comes, it is then mid-day or noon. The broad circle, which croſſes the whole, and divides the ſphere into two equal parts, is called the horiſon; becauſe it divides the heavens and the earth into two equal parts or hemiſpheres, called the upper and the lower, the one light, and the other dark. It likewiſe determines the riſing and ſetting of the Sun, Moon, or ſtars, in any particular latitude; for, when any of theſe appear juſt at the eaſtern part of the horiſon, we ſay, it riſes; and, when it does ſo at the weſtern part, we ſay, it ſets. From hence alſo the altitude of the Sun and ſtars is reckoned, which is their height above the horiſon. The poles of the horiſon are the zenith and the nadir, or the points immediately over our heads, and under our feet, diametrically oppoſite to each other, in the upper and lower hemiſpheres. The inner

wide circle repreſents the zodiac, the middle line of which is the ecliptic, or Sun's way in the zodiac, from which he never departs. It is not ſo with the Moon and the planets; for, though their conſtant way is in this circle of the zodiac, yet they continually deviate from its center, or ecliptic line, from north to ſouth, and from ſouth to north; which deviations are called their latitudes, and their extent each way determines the width of the zodiac. The two circles within the zodiac, which interſect each other at right angles, conſtitute the equinoctial colure, and the equator, or equinoctial line. The points, where theſe circles interſect each other, divide the quarters of the year. That which paſſes through the two equinoctial points determines the equinoxes; and that which paſſes through the poles of the ecliptic determines the ſolſtices. When the Sun is in the firſt of them, viz. in the ſpring, March 20th, it is called the vernal equinox; and when in autumn, September 23d, it is called the autumnal equinox; at both which times, it is equal day and night all over the world. So likewiſe when the Sun is in the other, and at his greateſt aſcent above the equator, and ſeems to deſcribe the tropic of Cancer, it is called the Summer ſolſtice, and makes the longeſt day; and on the contrary, when he is at his greateſt deſcent below the equator, and ſeems to deſcribe the tropic of Capricorn, it is called the Winter ſolſtice, or ſhorteſt day. Theſe tropics are two circles deſcribed, one immediately under and next adjoining to the arctic circle; and the other, that next above the antarctic circle. They are diſtant from the equinoctial twenty-three degrees twenty-nine minutes. That on the north ſide of the line is called the tropic of Cancer, and the ſouthern tropic has the name of Capricorn, as paſſing through the beginning of each of thoſe ſigns.

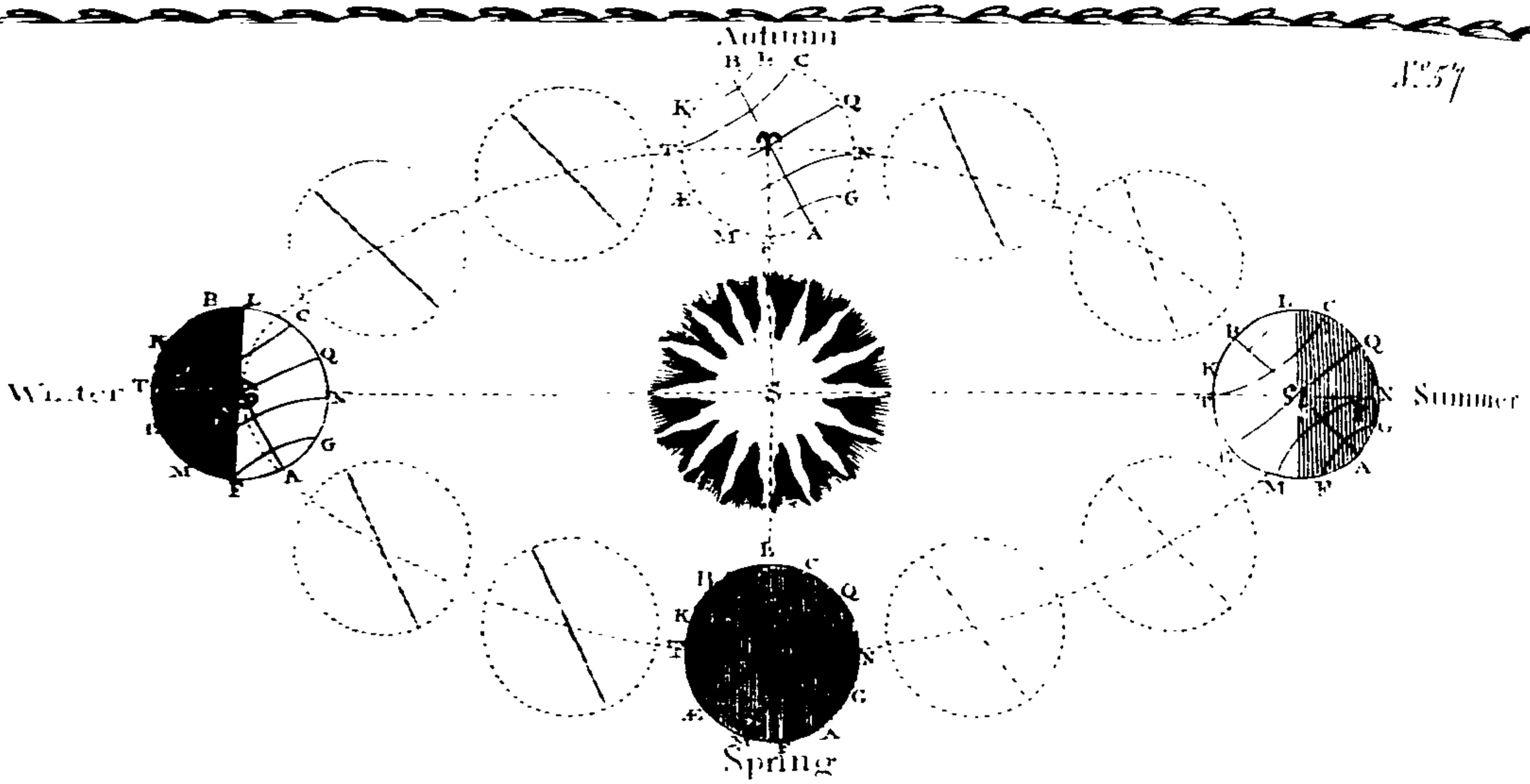
It muſt here likewiſe be noted, that the Equator, or Equinoctial Line, paſſes through the eaſt and weſt points of the horiſon, and at the meridian is raiſed as much above the horiſon as is the complement of the latitude of the place. From this circle, the latitude of places, whether north or ſouth, begin to be reckoned in degrees of the meridian; but the longitude of places are reckoned in degrees of the equator itſelf. All people living on or under this circle, which is called by geographers and navigators the Line, have their days and nights conſtantly equal: and this is the reaſon why, when the Sun enters the two points where the ecliptic interſects the equinoctial, and is exactly upon this line, namely, in the Spring and Autumn, as above-mentioned, the days and nights become of equal duration all over the globe. All the ſtars directly under this circle have no declination, but always riſe due eaſt, and ſet full weſt. The hour-circles are drawn at right angles to it, paſſing through every fifteenth

fifteenth degree; and the parallels to it are called parallels of declination. Having premiſed ſo much by way of explaining the ſphere, I ſhall now proceed with the ſubject immediately before us.

That the Earth is a ſpherical body may be demonſtrated from the following among other conſiderations. 1. All the appearances of the heavens, both at land and at ſea, are the ſame as they would be if the Earth were a globe. 2. In eclipſes of the Moon which are cauſed by the ſhadow of the Earth falling upon the Moon, this ſhadow is always circular, and a body can be no other than a globe, which in all ſituations caſts a circular ſhadow. 3. Several navigators have ſailed quite round the globe, ſteering their courſe directly ſouth and weſt, till they came to the Magellanic Sea, and from thence to the north and weſt, till they returned to their port from the eaſt; and all the phenomena which ſhould naturally ariſe from the Earth's rotundity happened to them. Beſides, their method of ſailing was alſo founded upon this hypotheſis, which could never have ſucceeded ſo happily, if the Earth had been of any other figure. It is true, the ſurface of the Earth is not an exact geometrical globe, but then the inequalities are ſo inconſiderable, that the higheſt mountain bears no greater proportion to the bulk of the Earth than a grain of duſt does to a common globe. The figure of the Earth then was reckoned by mathematicians and geographers as perfectly ſpherical, excepting the ſmall inequalities in its ſurface of mountains and valleys, till an accident engaged the attention of Sir Iſaac Newton and Mr. Huygens, who demonſtrated, from the laws of hydroſtatics, and the revolution of the Earth about its axis, that its figure was not a true ſphere, but an oblate ſpheriod flatted towards the poles. Monſieur Richer, when at the Iſland of Cayenne, about five degrees diſtant from the equator, found that his clock, which at Paris kept true time, now loſt two minutes and twenty-eight ſeconds every day. Now, though heat will lengthen pendulums, and conſequently retard their motion, it is certain the heats of Cayenne were not ſufficient to ſolve this phenomenon, which can flow only from a diminution in the preſſure of gravity. For, as the Earth revolves about its axis, all its parts will endeavour to recede from the axis of motion, and thereby the equatoreal parts where the motion is quickeſt will tend leſs towards the center than the reſt; their endeavour to fly off from the axis about which they revolve taking off part of their tendency that way; ſo that thoſe parts will become lighter than ſuch as are nearer the poles. The polar parts, therefore, will preſs in towards the center, and raiſe the equatoreal parts, till the quantity of matter in the latter is ſo far increaſed as to compenſate for its lightneſs, and an equilibrium be reſtored. On which account, the form which the Earth aſſumes will be that of an oblate ſpheroid, whoſe

ſhorter axis paſſes through the poles. By virtue only of the rotation of the Earth about its axis, the weight of bodies at the equator is leſs than at the poles, in the proportion of 288 to 289. From hence ariſes, as before obſerved, a ſperoidical form of the Earth, and from that ſpheroidical form ariſes another diminution of gravity at the equator, by which, if the Earth were homogeneous throughout, bodies at the equator would loſe one pound in 1121, and ſo, on both accounts taken together, the gravity of bodies at the poles would be to the ſame at the equator as 230 to 229. From whence, if we ſuppoſe the gravity of bodies within the Earth to be directly as their diſtance from the center, thoſe numbers will alſo expreſs the relation between its polar and equatoreal diameter. This is upon a ſuppoſition that the Earth was at firſt fluid, or a chaos, having its ſolid and fluid parts confuſedly mixed together; but if we ſuppoſe it at firſt partly fluid and partly dry, as it now is, ſince we find that the land is very nearly of the ſame figure with the ſea, except raiſed a little to prevent its being overflowed, the Earth muſt ſtill be of the ſame form; for otherwiſe the major part of the water would flow towards the equator, and ſpread itſelf like an inundation over all the land in thoſe parts. This theory met with great oppoſition from Monſieur Caſſini, who, having meaſured the meridian of France, declared (with great reaſon likewiſe, if the obſervations had been correct) that the Earth, inſtead of being flattened, was lengthened towards the poles, that is, inſtead of being an oblate it was an oblong ſpheroid, higher at the poles by about ninety-five miles. So wide a difference, between philoſophers of ſo high rank, determined at length the King of France, at an expence becoming a Monarch, to employ two companies of Mathematicians, the one to meaſure the length of a degree of the meridian at the equator, and the other the length of a degree at the polar circle, that by comparing them together, and with the length of the degree of France, it might be known whether the Earth were oblong or flat towards the poles.

It is certain, if the lengths of the degrees of latitude decreaſe as we go from the equator towards the poles, then the axis is greater, and the figure an oblong ſpheroid: but, on the contrary, if theſe lengths increaſe as you remove towards the poles, the axis is leſs than a diameter at the equator, and conſequently the figure an oblate ſpheroid. This laſt appears as well by the theory of Sir Iſaac Newton, to be the *true* figure, as it does by the reſpective menſurations of theſe mathematicians, which were performed with ſurpriſing exactneſs. The figure of the Earth being thus determined, we next proceed to ſhew the triple means whereby it is agitated and governed in its motion, and whereby night and day, and all the phænomena of the ſeaſons, are produced.



Annual Motion of the Earth

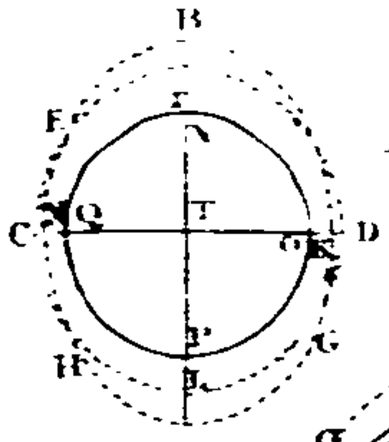


Fig. 2

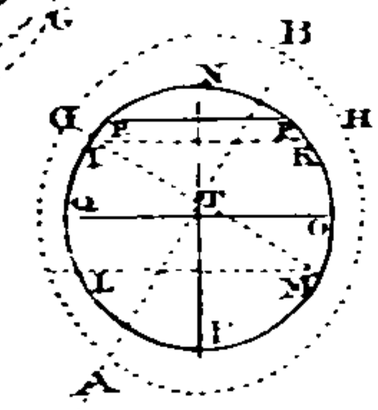


Fig. 3

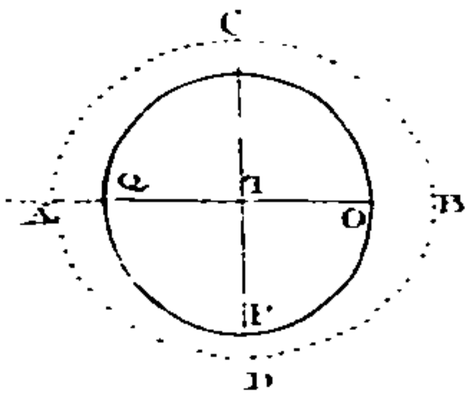


Fig. 4

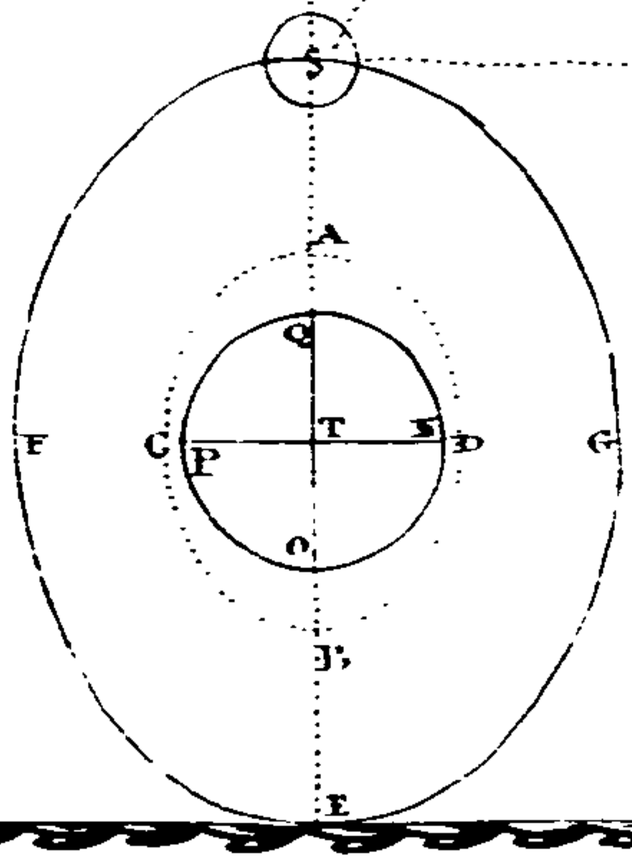


Fig. 5

Fig. 1

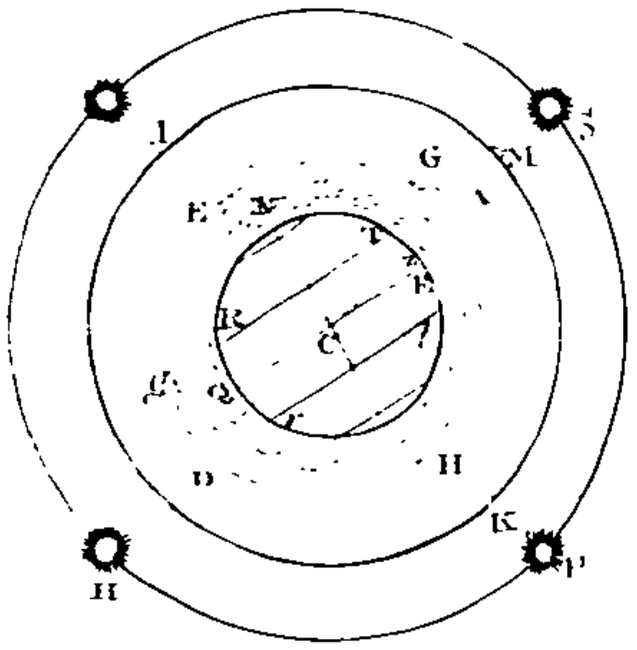
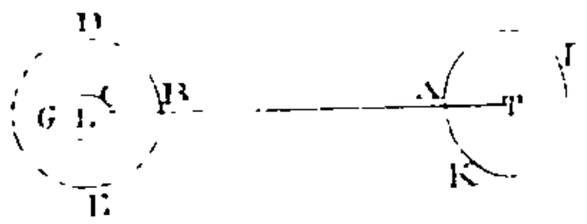


Fig. 6



Tides

In the firſt place, the earth is found to have a *diurnal* motion round its own axis, from weſt to eaſt, which it performs in twenty-four hours, and thereby occaſions the perpetual ſucceſſion of days and nights. It is every way agreeable to reaſon, that the earth ſhould revolve about its own axis, to account for the appearance of ſuch a vaſt number of ſtars, which ſeem to perform their revolutions round the earth in twenty-four hours; for the motion of theſe ſtars, were it real, would be incredibly ſwift, and beyond all imagination, becauſe their diſtance in reſpect of us is almoſt infinite, and the orbit they have to run round ſo prodigiouſly great, that they muſt move at leaſt 100,000 miles in a minute.

The Earth has, ſecondly, an *annual* motion round the Sun, which it performs every year, whereby it produces the different ſeaſons, and the lengthening and ſhortening of the days. It being now an eſtabliſhed doctrine that the Sun is the centre of our ſyſtem, and that the Earth moves round it, we ſhall avoid entering into any diſquiſitions upon that head, ſince it is only neceſſary we ſhould explain the phenomena which ariſe from the Earth's annual motion, in conjunction with the rotation round its axis; having firſt premiſed, that the earth, in its annual motion, hath its axis always in the ſame direction, or parallel to itſelf.

Suppoſe ♑ ♈ ♋ ♎ (in the annexed figure of the earth's motion) be the earth's orbit, and S the Sun. Through the center of the Sun draw the right line ♈ S ♎ parallel to the common ſection of the equator and the ecliptic, which will meet with the ecliptic in two points ♈ ♎. And, when the earth ſeen from the Sun is in either of the points ♈ or ♎, a right line S ♈ or S ♎, joining the center of the earth and Sun, will coincide with the common ſection of the equator and ecliptic, and will then be perpendicular to A B, the axis of the earth, or of the equator, becauſe it is in the plane of the equator. But the ſame line is alſo perpendicular to the circle which bounds the light and darkneſs, and therefore the axis of the earth will be in the plane of that circle, which will therefore paſs through the poles of the earth, and will cut the equator and all its parallels into equal parts. When the earth, therefore, is in the beginning of ♎, the Sun will be ſeen in ♈, in the common ſection of the equator and ecliptic, in which poſition, the circle of illumination touches both poles: the Sun is vertical to the equator, and the days and nights are equal all the world over; and this is the ſpring ſeaſon, or vernal equinox.

The Earth in its annual motion going through ♎, ♏, and ♐, towards ♑, and the common ſection of the equator, and the ecliptic remaining always parallel to itſelf, it will no longer paſs through the body of the Sun;

Sun: but, in ♑, it makes a right angle with the line S P, which joins the centers of the Sun and Earth. And becauſe the line S P is not in the plane of the equator, but in that of the ecliptic, the angle B P S, which the axis of the Earth B A makes with it, will not now be a right angle, but an oblique one of 66½ degrees, which is the ſame with the inclination of the axis to the plane of the ecliptic. Let the angle S P L be a right angle, and the circle, bounding light and darkneſs, will paſs through the point L, and then the arch B D, or the angle B P L, will be 23½ degrees, that is, equal to the complement of the angle B P S to a right angle. Let the angle B P E be a right angle, and then the line P E will be in the plane of the equator. Therefore, becauſe the arches B E and L T are equal, each of them being quadrants; if the common arch B T be taken away, there will remain T E equal to L B, equal to 23½ degrees. Take E M equal to E T, and through the points M and T deſcribe two parallel circles, TC MN; the one repreſents the tropic of Cancer, and the other the tropic of Capricorn. And, the Earth being in this ſituation, the Sun will approach the neareſt that it can come to the North Pole: he will ſhine perpendicularly on the point T, and conſequently will be vertical to all the inhabitants under the tropic of Cancer, when he comes to their meridians. It is manifeſt that the circle which bounds light and darkneſs reaches beyond the North Pole B to L; but towards the ſouth it falls ſhort to the South Pole A, and reaches no further than F. Through L and F, let two parallels to the equator be deſcribed. Theſe will repreſent the polar circles, and, while the Earth is in P, all that tract of it which is included within the polar circle K L continues in the light, notwithſtanding the conſtant revolution round the axis. On the contrary, thoſe that lie within the antarctic circle remain in continual darkneſs.

It is alſo manifeſt, that all the parallels between the equator and the arctic circle are cut by the circle bounding light and darkneſs into unequal portions, the largeſt portions of theſe circles remaining in the light, and the ſmalleſt in darkneſs; but theſe parallels which are towards the antarctic circle have their greateſt portions in darkneſs, and their leaſt in light; and the difference of theſe portions will be greater or leſs, according as the circles are nearer to the pole or to the equator. Therefore, when the Sun is ſeen in Cancer ♋, the inhabitants of the northern hemiſphere will have their days at the longeſt, and their nights at the ſhorteſt, and the ſeaſon of the year will be ſummer. The contrary of this will happen to the inhabitants of the ſouthern hemiſphere.

As the earth moves on from ♑ by ♒, ♓, the north pole returns, the diurnal arches begin gradually to decreaſe, and the nocturnal to increaſe, and

and, of conſequence, the Sun's rays will fall more and more obliquely, and his heat will proportionably diminiſh, till the earth comes to ♈, when the Sun will appear in ♎, at which time the days will again be equal to the nights to all the inhabitants of the earth, the circle bounding light and darkneſs paſſing, in this poſition, through the poles. This will be the ſeaſon called autumn.

The Earth moving on through ♈, ♉, and ♊, the Sun will be ſeen to go in the ecliptic through ♎, ♏, and ♐, and will appear to decline from the equator, towards the ſouth, ſo that, when the earth is really in ♋, the Sun will appear in ♑. And whereas the axis A B always retains its parallelism, the earth will have the ſame poſition, and aſpect, in reſpect to the Sun, that it had when it was in ♑; but with this difference, that the tract within the polar circle K L was in continual light while the earth was in ♑; and now, the earth arriving at ♋, that ſame tract will be altogether in darkneſs; but the oppoſite ſpace within the circle F G will be in a continual illumination, and at the pole A there will be no night for the ſpace of ſix months. Here likewiſe, of the parallels between the equator and the north pole, the illuminated portions are much leſs than the portions which remain in darkneſs, the contrary of which happened in the former poſition; ſo likewiſe the Sun at mid-day will appear vertical to all the inhabitants that live in the tropic M N; ſo that it will appear to have deſcended towards the ſouth from the parallel T C, to the parallel M N, through the arch C Q N, which is forty-ſeven degrees. This will be the ſeaſon called winter.

Laſtly, as the earth journeys on from ♋ through ♌ and ♍ to ♎, the Sun appears to paſs through ♎ and ♐ to ♈, and the northern climes begin to return, and receive more directly the enlivening beams of the Sun, whoſe meridian height does now each day increaſe; the days now lengthen, and the tedious nights contract their reſpective arches; and every thing conſpires to advance the delightful ſeaſon of the ſpring, with the equality of days and nights, as was ſhewn when the earth was in ♎, from which point we began to trace its motion.

The third motion of the earth is that motion by which the poles of the world revolve about the poles of the ecliptic, and occaſion what is commonly called the preceſſion of the equinoxes, which is a ſlow motion of the equinoctial points towards the weſt, that is, *in antecedentia*, or contrary to the order of the ſigns. This retrograde motion, by carrying the equinoctial points to meet the Sun in his apparent annual motion, makes him arrive at them ſooner every year than he would do if thoſe

points continued immoveable; and this arch of regreſſion being fifty-ſeconds a year, or one degree in ſeventy-two years, makes the equinoxes happen twenty minutes in time ſooner each year than they would otherwiſe do. And, though this change be not ſenſible in a few years, yet theſe points are found to have a very different ſituation from what they had two thouſand years ago.

By reaſon of this preceſſion of the equinoctial points, the fixed ſtars ſeem to move towards the eaſt, and thereby to have their longitude, which is always reckoned upon the ecliptic, from the vernal equinoctial point, encreaſed. And hence the conſtellations ſeem to have deſerted the places allotted them by the ancient aſtronomers; for inſtance, the beginning of the ſign Aries, which in Hipparchus's time was near the vernal equinoctial point, and gave name to that point of the ecliptic, is now removed near a whole ſign, or thirty degrees, eaſtward; ſo that Aries is now where Taurus uſed to be, Taurus where Gemini uſed to be, &c. and thus all the conſtellations of the zodiac have changed their ancient places. But, to avoid confuſion, aſtronomers have thought fit to let the ſeveral portions of the ecliptic, where theſe conſtellations were at firſt obſerved to be, retain their old names; ſo that the vernal equinoctial point is ſtill reckoned the firſt degree of Aries. However theſe portions of the ecliptic, where the conſtellations were at firſt, are called *anæſtra*, to diſtinguiſh them from the places where they now are, which are termed *ſtellata*.

The orbit, in which the earth moves round the Sun, common experience proves to be elliptical; for, were it circular, the Sun's apparent diameter would always be the ſame; but we find it is not, for, if it be meaſured with a micrometer in winter-time, it will be found conſiderably larger than in ſummer, and it will be greateſt of all when the Sun is in the eighth degree of Capricorn, which ſhews that is the place of the aphelium, it being then thirty-two minutes forty-ſeven ſeconds; whereas, when the Sun is in the eighth degree of Cancer, his diameter is but thirty-one minutes forty ſeconds. Hence it is evident that the Sun is really nearer to us in the midſt of winter than in the midſt of ſummer; but this ſeems a paradox to many, who think the Sun muſt needs be hotteſt when it is neareſt to us, and that the Sun is apparently more diſtant from us in December than in June. As to the Sun's being hotter, it is true, it is ſo to all thoſe places which receive his rays directly or perpendicularly; but *we* find his heat abated on account of the obliquity of the rays, and his ſhorter continuance above the horizon at that time; and, as to his diſtance, it is only with reſpect to the zenith of the

the place, not the center of the earth; ſince it is plain the Sun may approach the centre of the earth, at the ſame time that is recedes from the zenith of any place; and, agreeably to the Sun's nearer diſtance in the winter, we obſerve his apparent motion is then quicker than in the ſummer; for in the eighth degree of Capricorn it is about ſixty-one minutes per day, but in the eighth degree of Cancer, his motion is but fifty-ſeven minutes per day; accordingly, we find the ſummer half-year eight days longer than the winter half-year, as appears by the following computation, according to the new ſtyle.

The Winter half-year includes		The Summer half-year includes	
In September,	7 Days.	In March	10 Days.
October	31	April	30
November	30	May	31
December	31	June	30
January	31	July	31
February	28	Auguſt	31
March	20½	September	23
	178½		186½
		Winter half-year	178½
		Difference in the two half-years - -	8 Days.

For, the Sun's attracting force being one part of the cauſe of the planet's motion, and this force always increaſing and decreaſing in the inverſe ratio of the ſquares of the diſtances, it is evident the velocity of the planet will always be greater the nearer it is to the Sun, and *vice verſa*. In this manner the earth's motion round the Sun is invariably continued, and its revolution performed in three hundred ſixty-five days ſix hours nine minutes fourteen ſeconds.

The earth, in its natural and original ſtate, Des Cartes, Burnet, Woodward, and Whiſton, ſuppoſe to have been perfectly round, ſmooth, and equable; and they account for its preſent rude and irregular form principally from the waters of the great deluge, which inundated and overflowed the whole ſurface of the globe, to the height of fifteen cubits above the higheſt hills; for to that height Moſes expreſsly ſaith, *Gen.* vii. 20. "the waters prevailed." Some have ventured to deny there were any mountains at all before the flood, though he expreſsly mentions them as a ſtandard for the height of the water. Others have denied the univerſality of the deluge, though the words of the text be, "that all the hills over the whole earth were covered." Others have had recourſe

to

to the ſhifting of the earth's center of gravity, and therefore, will have all parts drowned ſucceſſively; and our famous theoriſt, Dr. Burnet, fancies an earth made on purpoſe to be drowned at that time, which, being in form of an orbicular cruſt on the face of the ſea, as we now call it (for he ſays there was none before the deluge), fell down into the water and ſo drowned its inhabitants.

But the Holy Scriptures tell us, that the waters of the deluge came from two funds, "the great deep below," and the "rains above." Again, when we look to the internal parts of the earth, even to the greateſt depth men have ever reached, we find that the body of the terreſtrial globe is compoſed of ſtrata, or layers, lying over one another, which appear to be ſediments of a flood: beſides, in the bodies of theſe ſtrata, though never ſo ſolid, nay, even incloſed within the ſolidity of the firmeſt flints, marble, ſtone, &c. we find a prodigious variety of the exuviæ, or remains of fiſhes, ſuch as their ſhells, teeth, &c. as well marine ones, as thoſe which live in lakes and rivers; and from a due obſervation of theſe, and repeated conſiderations upon them, it was, that the learned Dr. Woodward founded what he delivers upon this ſubject, which therefore is not ſo much a theory of the earth, as neceſſary deductions, and unavoidable conſequences, drawn from the matters of fact, as they are laid down in the ſecond part of his natural hiſtory of the earth. 1. That theſe marine bodies, and the other ſpoils of freſh water fiſhes, were borne forth out of the ſea by the univerſal deluge, and on return of the water back again from off the earth they were left behind on land. 2. That, during the time of the deluge, all the ſtone and marble of the antideluvian earth, all the metals in it, all the mineral concretions, and in a word all foſſils whatever, that had before attained any ſolidity, were totally diſſolved; their conſtituent corpuſcles disjoined, and their coheſion perfectly ceaſed; and that the ſaid corpuſcles, together with the corpuſcles of thoſe which were not before ſolid, ſuch as ſand, earth, and the like; as alſo, all animal bodies, teeth, ſhells, vegetables, in ſhort, all bodies whatever, that were either upon the earth, or that conſtituted the maſs, if not quite down to the abyſs, yet to the greateſt depths we ever dig, were aſſumed up promiſcuouſly into the water, and ſuſtained therein; ſo that the water and theſe bodies made up one common maſs. 3. That, at length, all the maſs that was thus borne up in the water was again precipitated, and ſubſided toward the bottom, and that this ſubſidence happened generally according to the laws of gravity. That the matter ſubſiding thus formed the ſtrata of ſtone, earth, marble, coal, &c. of which ſtrata the terreſtrial globe, or at leaſt as much of it as hath been diſplayed to human view, doth chiefly conſiſt. 4. That the ſtrata of marble, &c. attained their

ſolidity

ſolidity as ſoon as the ſand, or other matter, whereof they conſiſt, was arrived at the bottom, and well ſettled there; and that all thoſe ſtrata, which are ſolid at this day, have been ſo ever ſince that time. 5. That theſe ſtrata were originally parallel, plane, and regular, and conſequently rendered the ſurface of the earth even and ſpherical; that they were contiguous, and not broken and interrupted as we find them now; and that the water lay then upon them, conſtituting a fluid ſphere, environing all the globe round. 6. That, after ſome time, by the force of an agent ſeated within the earth, thoſe ſtrata were broken on all ſides of the globe; that they were diſlocated, and their ſituation varied; from whence theſe elevations and depreſſions on the ſurface of the globe, as the mountains, valleys, and other inequalities.

From theſe obſervations he concludes, that Noah's deluge was quite univerſal, covering the whole earth, even the higheſt mountains quite round the globe; that, at the time of the deluge, the water of the ocean was firſt brought out on the earth, and immediately ſucceeded by that of the abyſs; that, upon the diſruption of the ſtrata, or the elevation of ſome, and the depreſſion of others, towards the end of the deluge, this maſs of water fell back towards the loweſt parts of the earth, into lakes, and other cavities, into the channel of the ocean, and through the fiſſures by which this communicates with the ocean, in the abyſs which it filled, till it came to an equilibrium with the ocean; that the deluge commenced in the ſpring ſeaſon, the waters coming forth upon the earth in the month which we call May; that the deluge did not happen from an accidental concourſe of natural cauſes, but that many things then happened which never could poſſibly happen without the aſſiſtance of a ſupernatural power.

Mr. Whiſton, on the contrary, in his new theory of the earth, ſuppoſes the deluge began on the 18th of November, in the 2365th year of the Julian period, that is, 2349 years before the Chriſtian æra; that a comet, deſcending towards its perihelion in the plane of the ecliptic, paſſed quite near the globe of the earth, the very ſame day that the deluge began: he aſcribes to the univerſal deluge all the changes and alterations that have happened in the ſurface and inſide of the globe: he adopts the hypotheſis of Dr. Woodward, and indiſcriminately makes uſe of all the obſervations of this author with regard to the preſent ſtate of the globe.

The terreſtrial globe having once met with the tail of the comet, conſiſting of a tranſparent fog, or aqueous atmoſphere, it muſt, in paſſing through it, appropriate to itſelf ſome part of the matter it contained.

All that was found within the ſphere of attraction of the globe muſt have fallen upon the earth, and that in form of rain, ſince this tail partly conſiſted of aqueous vapours. This tail being "the cataracts of heaven that were opened," the rain may be made as plentiful as one pleaſes, even to occaſion an univerſal deluge, the waters of which would eaſily cover the higheſt mountains. However, Mr. Whiſton does not attribute the whole deluge to theſe waters only, for, agreeably to Scripture, he affirms that the earth, upon the approach of the comet, would no doubt feel the force of its attraction; ſo that the fluid, contained in the great abyſs, would be agitated by ſo violent a flux and reflux, that the ſuperficial cruſt of the earth could not reſiſt it, but be broken in ſeveral places, and the internal waters diffuſed over the ſurface, "and the fountains of the great deep broken up." Mr. Whiſton, to diſpoſe of all this water, ſuppoſes, that, as ſoon as the earth in continuing its courſe had got ſome way from the comet, the effects of its attraction, the flux and reflux ceaſed in the great abyſs, and then the ſuperior waters were violently precipitated through the ſame paſſages by which they came out; the great abyſs ſwallowed up all the ſuperfluous waters, and its cavity was found capable enough to receive, not only the waters which it had already contained, but alſo all thoſe which the tail of the comet had left behind it; ſince, during the time of its agitation, and the burſting of its cruſt, it had enlarged the ſpace by breaking-down on all hands the earth that environed it. It was, in like manner, at this time, that the earth, which till then was ſpherical, became elliptic, occaſioned not only by the effect of the centrifugal force cauſed by its diurnal revolution, but likewiſe by the action of the comet: and that, becauſe the earth, in paſſing through the tail of the comet, was ſituated in ſuch a manner that it preſented its equatoreal parts to this body; and becauſe the force of the comet's attraction, concurring with this centrifugal force of the earth, took away thoſe parts of the equator with ſo much the more facility as the cruſt was broken and disjoined in a vaſt many places; and becauſe the action of the flux and reflux of the abyſs made a more violent impreſſion upon the parts under the equator than any where elſe.

Dr. Halley reſolves the deluge into the ſhock of a comet, or ſome other ſuch tranſient body: the great agitation that muſt have been occaſioned by it in the ſea, he obſerves, would be ſufficient to account for all thoſe ſtrange appearances of heaping vaſt quantities of earth, and high cliffs, upon the beds of ſhells, which once were the bottom of the ſea, and raiſing up mountains where none were before: ſuch a ſhock as this, impelling the ſolid parts, would occaſion the waters, and all fluid ſubſtances that were unconfined, as the ſea is, to run violently with an impetus

impetus toward that part of the globe where the blow was received, and that with force ſufficient to take with it the very bottom of the ocean, and would carry it upon land. There are various other ſyſtems of the univerſal deluge, ſeveral of which may be ſeen in Monſieur Buffon's Natural Hiſtory, tom. i.

Monſieur de Buffon, arguing from the ſpheroidical figure of the earth, and the laws of hydroſtatics, ſuppoſes that the earth, as well as the other planets, are parts ſtruck off from the body of the Sun by the colliſion of comets; and conſequently, when the earth aſſumed its form, it was in a ſtate of liquefaction by fire. Of this, ſays he, we ſhall be the more eaſily convinced, when we conſider the nature of the matter contained in the body of the earth, the greateſt part of which, as ſand and clays, are vitrified or vitrifiable ſubſtances; and, on the other hand, when we reflect upon the impoſſibility of the earth's being ever in a ſtate of fluidity produced by water, ſince there is infinitely more land than water; and, beſides, water has not the power of diſſolving ſand, ſtones, and other ſubſtances of which the earth is compoſed. How far the inequalities in the face of the earth, the beds of rivers, lakes, &c. and the various ſtrata in its internal parts, ſerve to confirm this hypotheſis, may be ſeen in Hiſtoire Naturelle, &c. tom. i. by M. de Buffon.

The arguments of different philoſophers and hiſtorians, relative to the deluge, and theory of the earth, have founded matter of enquiry to naturaliſts, how far the ſame cauſes, which muſt have produced not only the mixtures, but the cavities and fiſſures, in the earth, have been the inlet and cauſe likewiſe of earthquakes and volcanos. Earthquakes conſiſt of a violent agitation or trembling of the earth, generally attended with a terrible noiſe like thunder, and ſometimes with an eruption of fire, water, wind, &c. Volcanos are hollow ſubterraneous combuſtible mountains, which vomit forth fire, flame, aſhes, cinders, &c. Earthquakes and volcanos are both accounted for upon the ſame principles, and may be thus explained:—Thoſe countries which are hollow and ſubterraneous, and which naturally yield great ſtore of ſulphur and nitre, or where ſulphur is ſublimed from the pyrites, are by far the moſt injured and incommoded by earthquakes; for, where there are ſuch mines, they muſt ſend up exhalations, which, meeting with ſubterraneous caverns, muſt ſtick to the arches of them, as ſoot does to the ſides of our chimneys; where they mix themſelves with the nitre or ſaltpetre which comes out of theſe arches, in like manner as we ſee it come out of the inſide of the arch of a bridge, and ſo makes a kind of cruſt which will very eaſily take fire; there are ſeveral ways by which this cruſt may take

take fire, viz. by the inflammable breath of the pyrites, which is a kind of ſulphur that naturally takes fire of itſelf. 2. By a fermentation of vapours to a degree of heat equal to that of fire and flame. 3. By the falling of ſome great ſtone which is undermined by water, and, ſtriking againſt another, produces ſome ſparks that ſet fire to the neighbouring combuſtible matter, which, being akind of natural gunpowder, at the appulſe of the fire goes off with a ſudden blaſt or violent exploſion, rumbling in the bowels of the earth, and lifting up the ground above it, ſo as ſometimes to make a miſerable havock and devaſtation, till it gets vent or a diſcharge. Burning mountains and volcanos are only ſo many ſpiracles ſerving for the diſcharge of this ſubterranean fire, when it is thus preternaturally aſſembled; and, where there happens to be ſuch a ſtructure and conformation of the interior parts of the earth, that the fire may paſs freely and without impediment from the caverns therein, it aſſembles into theſe ſpirals, and then readily and eaſily gets out from time to time without ſhaking or diſturbing the earth; but where a communication is wanting, or the paſſages are not ſufficiently large and open, ſo that it cannot come at the ſaid ſpiracles without firſt forcing and removing all obſtacles, it heaves up and ſhocks the earth, till it hath made its way to the mouth of the vulcano, where it ruſheth forth, ſometimes in mighty flames, with great velocity, and a terrible bellowing noiſe. Earthquakes are ſometimes confined to a narrow ſpace, which is properly the effect of the re-action of the fire; and they ſhake the earth juſt as the exploſion of a powder-magazine cauſes a ſenſible concuſſion at the diſtance of ſeveral leagues. Thus a violent eruption of Etna will cauſe an earthquake over all the iſland of Sicily; but it will never extend to the diſtance of three or four hundred leagues. In like manner, when ſome new vents of fire have been formed in mount Veſuvius, there are felt at the ſame time earthquakes at Naples, and in the neighbourhood of the volcano; but theſe concuſſions have never ſhaken the Alps, nor been communicated to France, or other countries remote from Veſuvius. Sometimes they are felt at conſiderable diſtances, and ſhake a long tract of ground without any eruption or vulcano appearing. We have inſtances of earthquakes which were felt the ſame time in England, France, Germany, and even in Hungary; and theſe extend always a great deal more in length than in breadth; they ſhake a tract of ground with more or leſs violence, in different places, in proportion as it is remote from the fire; and they are almoſt always accompanied with a dull noiſe, like that of a heavy carriage rolling along with great rapidity.

Dr. Woodward gives us another theory of earthquakes. He endeavours to ſhew, that the ſubterraneous heat or fire, which is continually

elevating water out of the abyſs to furniſh the earth with rain, dew, ſprings, and rivers, being ſtopped in any part of the earth, and ſo diverted from its ordinary courſe by ſome accidental glut or obſtruction in the pores or paſſages through which it uſed to aſcend to the ſurface, becomes by ſuch means preternaturally aſſembled in a greater quantity than uſual into one place, and therefore cauſeth a great rarefaction and intumeſcence of the water of the abyſs, putting it into great commotions and diſorders, and at the ſame time making the like effort on the earth; which, being expanded upon the face of the abyſs, occaſions the agitation and concuſſion which we call an earthquake.

But Dr. Stukeley has introduced a new notion in the theory of earthquakes, and has endeavoured to prove that they are cauſed by electricity. He urges a variety of objections againſt the foregoing hypotheſis, which aſcribes earthquakes to ſubterraneous winds, fires, vapours, or any thing that occaſions an exploſion, and thus heaves up the ground. He thinks there is no evidence of the cavernous ſtructure of the earth, which this hypotheſis requires; but that, on the contrary, there is reaſon to believe that it is in a great meaſure ſolid. Earthquakes have alſo frequently happened without any eruption of fire, vapour, ſmoke, or ſmell, which he thinks is utterly inconſiſtent with the ſuppoſition of their being occaſioned by any ſubterraneous vapours; eſpecially in caſes where the ſhock is of conſiderable extent; beſides, this is a cauſe altogether inadequate to ſuch an effect; for a ſubterraneous power, capable of moving a ſurface of earth only thirty miles in diameter, muſt be lodged at leaſt fifteen or twenty miles below the ſurface, and move an inverted cone of ſolid earth, whoſe baſe is thirty miles in diameter, and its axis fifteen or twenty miles, which he judges to be abſolutely impoſſible; how much more inconceivable, then, that any ſuch power could produce the earthquake of 1755, which was felt in various parts of Europe and Africa, and the Atlantic Ocean; or that of Aſia Minor, A. D. 17, by which thirteen great cities were deſtroyed in one night, and which ſhook a maſs of earth three hundred miles in diameter, in order to which the moving power, if it had been internal fire or vapour, muſt have been lodged two hundred miles below the ſurface! Farther, in earthquakes the effect is inſtantaneous; whereas the operation of elaſtic vapour and the diſcharge of it muſt be gradual, and require a long ſpace of time; and, if they were owing to exploſions, they muſt alter the ſurface of the country where they happened, deſtroy the fountains and ſprings, and change the courſe of its rivers, which is contradicted by hiſtory and obſervation. To all which it is added, that the ſtrokes which ſhips receive during an earthquake muſt be occaſioned by ſomething that could communi-

nicate motion with a much greater velocity than any heaving of the earth under the ſea by the elaſticity of generated vapours, which would only produce a gradual ſwell, and not an impulſe of the water, reſembling a thump againſt the bottom of a ſhip or ſtriking againſt a rock. Dr. Stukeley, finding the common hypotheſis inſufficient, was led to conclude that earthquakes were proper electrical ſhocks; and a particular ſurvey of the phenomena, that either precede or attend them, confirmed this opinion: he obſerved that the weather was uſually dry and warm for ſome time before an earthquake happened, and that the ſurface of the ground is thus previouſly diſpoſed for that kind of electrical vibration in which it conſiſts; whilſt at the ſame time, in ſome places were earthquakes have happened, the internal parts, at a ſmall depth below the ſurface, are moiſt and boggy; and thence he infers, that they reach very little below the ſurface. He adds, that the ſouthern regions are more ſubject to earthquakes than the northern, on account of the greater warmth and drineſs of the earth and air, which are qualities ſo neceſſary to electricity. It was alſo obſerved, that before the earthquakes at London in 1749, all vegetables were remarkably forward, and electrity is well known to quicken vegetation. They were likewiſe preceded by frequent and ſingular appearances of the *aurora borealis* and *auſtralis*, and by a variety of other meteors which indicate an electrical ſtate of the atmoſphere. Dr. Stukeley apprehends, that, in this ſtate of the earth and air, nothing more is neceſſary to produce an earthquake than the approach of a non-electric cloud to any part of the earth, when in an highly electrified ſtate, and the diſcharge of its contents upon it; and that, as the diſcharge from an excited tube occaſions a commotion in the human body, ſo the ſhock, produced by the diſcharge between the cloud and many miles in compaſs of ſolid earth, muſt be an earthquake, and the ſnap from the contact be the noiſe attending it. He ſuppoſes, that a large black cloud which ſuddenly covered the hemiſphere a little before the earthquake of 1749 might have occaſioned the ſhock, by the diſcharge of a ſhower. The noiſe, it has been obſerved, uſually precedes the ſhock; whereas, if the concuſſion depended upon a ſubterraneous eruption, it muſt have been quite the contrary. The flames and ſulphureous ſmells which ſometimes attend earthquakes are more eaſily accounted for, as Dr. Stukeley thinks, from the ſuppoſition of their being electrical phenomena than on any other hypotheſis. The ſudden extenſive agitation, both of land and water, occaſioned by earthquakes, can only be effected by electricity. The little damage generally done by earthquakes, and the nature of the impulſe which they give to ſhips, already taken notice of, ſuggeſt an argument, that they are owing not to any convulſion in the bowels of the earth, but to an uniform vibration along

along its ſurface, occaſioned by an electrical ſnap; and that they are electrical phenomena, Dr. Stukeley farther infers, from their chiefly affecting the ſea-coaſt, or places near rivers; we may add alſo, eminences; and finally from the effects which they produce on weak conſtitutions, ſuch as pains in the back, head-achs, cholics, &c. ſimilar to thoſe occaſioned ſometimes by electrification. After all, he does not preſume to ſay, how the earth and atmoſphere are put into that electrical and vibratory ſtate, which prepares them to give or receive that ſnap, and ſhock, which is called an earthquake; but this he thinks as difficult to account for as magnetiſm, gravitation, muſcular motion, and many other ſecrets in nature. Several circumſtances have been remarked by other writers, which confirm the theory that ſuppoſes earthquakes to be electrical phenomena. Signior Beccaria, whoſe name often occurs in the hiſtory of electricity, agrees with Dr. Stukeley, in ſuppoſing, that earthquakes are electrical phenomena; but he imagines that the electric matter which occaſions them is lodged deep in the bowels of the earth; and, if in this ſituation its equilibrium ſhould by any means be deſtroyed, ſo that the beſt method of reſtoring it ſhall be by the fluid's burſting its way into the air, and traverſing ſeveral miles of the atmoſphere to come to the place where it is wanted, it may eaſily be conceived, that violent concuſſions may be given to the earth, by the ſudden paſſages of this powerful agent; and that the electric fluid is ſometimes collected in the bowels of the earth, he thinks probable from the appearance of *ignes fatui* in mines, which ſometimes happens, and is very probably an electrical phenomenon. This ingenious philoſopher obſerves, that, if two pieces of glaſs, incloſed in a thin piece of metal, be held in the hand, while a large ſhock is ſent through them, a ſtrong concuſſion or vibration will be felt, which ſometimes breaks them to pieces. Mr. Henly, another excellent electrician, has diſcovered a method of increaſing the effect of the exploſion upon glaſs, ſo as to afford a very natural idea of an earthquake. Between the ends of two wires, laid on a piece of glaſs, with their extremities pointing to each other, and about an inch diſtant, through which the diſcharge is to be made, he places a thick piece of ivory upon the glaſs, and on the ivory a weight at pleaſure, from one-fourth of an ounce to ſix pounds; the glaſs is broken by an exploſion into innumerable fragments, and ſome of it is reduced into an impalpable powder: the weight is ſhaken by the exploſion and ſometimes thrown off from the ivory. In this experiment, if the glaſs is very thick, ſo that the force of the exploſion is not ſufficient to break it, it will be found marked with the moſt lively priſmatic colours. The appearance of an earthquake may be alſo repreſented by cauſing the exploſion of a battery to paſs over the ſurface of any ſubſtances on which

ſmall

ſmall ſticks or cards are placed, which will never fail to be ſhaken, and often be thrown down, by the exploſion; or, by making a diſcharge over the ſurface of water, in which caſe the report will be much louder than when the diſcharge is made through the air; and a hand plunged deep into the water will feel the concuſſion; and we may add, that the ſpark which paſſes over the ſurface of the water in this experiment bears a great reſemblance to thoſe balls of fire that have ſometimes been ſeen over the ſurface of the ſea or land in the time of a earthquake. Dr. Prieſtley contrived various methods of exhibiting the phenomena of earthquakes. He made the electric flaſh to paſs over wet boards ſwimming in water, over either of theſe ſeparately, or over both at once, on which pillars, &c. were erected; and thus, whilſt the board repreſented the earth, and the water the ſea, the phenomena of both during an earthquake were exhibited at the ſame time. Dr. Prieſtley, the ingenious hiſtorian of electricity, after having largely recited the obſervations of Dr. Stukeley and Signior Beccaria, does not abſolutely decide which of theſe two philoſophers has advanced the more probable opinion concerning the ſeat of the electric matter which occaſions earthquakes; but he thinks a more probable general hypotheſis than either of them may be formed out of them both. Suppoſe, ſays he, the electric matter to be ſome way or other accumulated on one part of the ſurface of the earth, and, on account of the drineſs of the ſeaſon, not eaſily to diffuſe itſelf; it may, as Signor Beccaria ſuppoſes, force itſelf away into the higher regions of the air, forming clouds in its paſſage out of the vapours which float in the atmoſphere, and occaſion a ſudden ſhower, which may farther promote the paſſage of the fluid. The whole ſurface, thus unloaded, will receive a concuſſion, like any other conducting ſubſtance, on parting with, or receiving, a quantity of the electric fluid; the ruſhing noiſe will likewiſe ſweep over the whole extent of the country; and, upon this ſuppoſition alſo, the fluid, in its diſcharge from the country, will naturally follow the courſe of the rivers, and alſo take the advantage of any eminences to facilitate its aſcent into the higher regions of the air. See farther on this ſubject, Phil. Tranſ. vol. xli. page 641, &c. Beccaria Lettre dell'Electriciſmo, page 216, 362, &c. or Prieſtley's Hiſtory of Electricity, Period. x. ſect. 12.

How far theſe arguments and obſervations are ſufficient to explode the former theory of earthquakes, and to ſolve the various and complicated effects of their deſtructive operation, muſt be left to the determination of the attentive reader, after he has maturely contemplated the following authentic narration of ſome of the moſt fatal earthquakes that ever excited terror and trepidation in the minds of men.

The earthquake, which happened in Sicily in the year 1692 3, as related by Mr. Hartop, F. Burgos, and Vin. Bonajutus, is one of the moſt fatal, and exhibits the moſt lamentable cataſtrophe of the kind, recorded in hiſtory. It extended over the whole iſland; and even Naples and Malta were affected by the ſhock. It was of the ſecond kind mentioned by Ariſtotle and Pliny, viz. a perpendicular pulſation or ſucceſſion. The motion was ſo rapid and violent, that no body could ſtand upon their legs; thoſe who lay on the ground were toſſed from ſide to ſide as on a rolling billow, and high walls leaped from their foundations many yards diſtant. The miſchief it did is amazing; almoſt all the buildings in the country were thrown down. Fifty-four cities and towns, beſides an incredible number of villages, were either deſtroyed or greatly damaged. We ſhall only inſtance the fate of Catania, one of the moſt famous, ancient, and flouriſhing, cities in the kingdom, the reſidence of ſeveral monarchs, and an univerſity. This once famous, now unhappy, Catania, to uſe the words of F. Burgos, had the greateſt ſhare in the tragedy. F. Anton. Serrovita, being on his way thither, and at the diſtance of a few miles, obſerved a black cloud, like night, hovering over the city; and there aroſe from the mouth of Mont Gibello great ſpires of flame, which ſpread all around. The ſea, all of a ſudden, began to roar, and riſe in billows; and there was a noiſe as if all the artillery in the world had been at once diſcharged. The birds flew about aſtoniſhed; the cattle in the fields ran crying, &c. His and his companions horſes ſtopped ſhort, trembling; ſo that they were forced to alight. They were no ſooner off, but they were lifted from the ground above two palms; when, caſting their eyes towards Catania, he with amazement ſaw nothing but a thick cloud of duſt in the air. This was the ſcene of their calamity; for of the magnificent Catania there was not the leaſt footſtep to be ſeen. S. Bonajutus aſſures us, that, of 18,914 inhabitants 18,000 periſhed therein. The ſame author, from a computation of the inhabitants, before and after the earthquake, in the ſeveral cities and towns, finds that near 60,000 periſhed out of 254,900.

Jamaica is remarkable for earthquakes. The inhabitants, Dr. Sloane informs us, expect one every year. This author gives us the hiſtory of one in 1687; and another horrible one in 1692 is deſcribed by ſeveral anonymous authors. In two minutes time this ſhook down and drowned nine tenths of the town of Port Royal. The houſes ſunk out-right, 30 or 40 fathoms deep. The Earth, opening, ſwallowed up people; and they roſe in other ſtreets, ſome in the middle of the harbour; and yet many were ſaved, though there were 2000 people loſt, and 1000 acres of land ſunk. All the houſes were thrown down throughout the iſland.

One Hopkins had his plantation removed half a mile from its place. Of all wells, from one fathom to ſix or ſeven, the water flew out at the top with a vehement motion. While the houſes on one ſide of the ſtreet were ſwallowed up, on the other they were thrown on heaps; and the ſand in the ſtreet roſe like waves in the ſea, lifting up every body that ſtood on it, and immediately dropping down into pits; and at the ſame inſtant a flood of water, breaking in, rolled them over and over; ſome catching hold of beams and rafters, &c. Ships and ſloops in the harbour were overſet and loſt; the Swan frigate, particularly, was thrown over by the motion of the ſea and ſinking of the wharf, and was driven over the tops of many houſes. The calamity was attended with a hollow rumbling noiſe like thunder. In leſs than a minute, three quarters of the houſes, and the ground they ſtood on, with the inhabitants, were all ſunk quite under water; and the little part left behind was no better than a heap of rubbiſh. The ſhake was ſo violent, that it threw people down on their knees or their faces as they were running about for ſhelter. The ground heaved and ſwelled like a rolling ſea; and ſeveral houſes ſtill ſtanding, were ſhuffled and moved ſome yards out of their places. A whole ſtreet is ſaid to be twice as broad now as before; and in many places, the earth would crack, and open and ſhut, quick and faſt. Of which openings, two or three hundred might be ſeen at a time; in ſome whereof, the people were ſwallowed up; others, the earth cloſing, were caught by the middle, and preſſed to death; as to others, the heads only appeared. The larger openings ſwallowed up houſes; and out of ſome would iſſue whole rivers of waters, ſpouting up a great height into the air, and threatening a deluge to that part the earthquake ſpared. The whole was attended with ſtenches and offenſive ſmells, the noiſe of falling mountains at a diſtance, &c. and the ſky in a minute's time was turned dull and reddiſh like a glowing oven. Yet, as great a ſufferer as Port Royal was, more houſes were left ſtanding therein than on the whole iſland beſide. Scarce a planting-houſe or ſugar-work was left ſtanding in all Jamaica. A great part of them were ſwallowed up, houſes, people, trees, and all at once; in lieu of which, afterwards appeared great pools of water, which, when dried up, left nothing but ſand, without any mark that ever tree or plant had been thereon. About twelve miles from the ſea the earth gaped, and ſpouted out with a prodigious force vaſt quantities of water into the air; yet the greateſt violences were among the mountains and rocks; and it is a general opinion, that the nearer the mountains the greater was the ſhake, and that the cauſe thereof lay there. Moſt of the rivers were ſtopped up for twenty-four hours, by the falling of the mountains, till, ſwelling up, they made themſelves new tracts and channels, tearing up in their paſſage trees, &c.

After

After the great ſhake, many of thoſe people who eſcaped got on-board ſhips in the harbour, where many continued above two months; the ſhakes all that time being ſo violent, and coming ſo thick, ſometimes two or three in an hour, accompanied with frightful noiſes like a ruſtling wind, or a hollow rumbling thunder, with brimſtone blaſts, that they durſt not come aſhore. The conſequence of the earthquake was a general ſickneſs, from the noiſome vapours belched forth, which ſwept away above 3000 perſons of thoſe who were left. After the detail of theſe horrible convulſions, the reader will have but little curioſity left for the phenomena of the earthquake at Lima in 1687, deſcribed by Fa. Alvarez de Toledo, wherein above 5000 perſons were deſtroyed; this being of the vibratory kind, ſo that the bells in the church rang of themſelves; or that at Batavia, in 1699, by Witzen; that in the north of England, in 1703, by Mr. Thoreſby; thoſe in New England, in 1663 and 1670, by Dr. Matthew; that of Italy in 1742; that of Lima and the port of Calas in Peru, in 1746, which laſted fifteen minutes, and demoliſhed moſt of the buildings in the city, and deſtroyed moſt of the inhabitants, and ſwallowed up ſeveral ſhips then in the port; that of London, in 1749; thoſe in 1750, felt in many parts of England; that of 1777, felt in the north of England; or that at Liſbon, in 1755, though this deſerves a more particular account than many others of much leſs conſiderable extent and duration. The three preceding years had been remarkably dry, inſomuch that ſome ſprings which had been plentifully ſupplied with water were totally loſt; and the predominant winds were eaſt and north-eaſt, accompanied with various, though very ſmall, motions and tremblings of the earth. The ſpring of the year 1755 was very rainy and wet; the weather on the day preceding the earthquake, which happened on the 1ſt of November, was clear and uncommonly warm for the ſeaſon, and had continued clear and rather warmer than uſual for ſeveral days before. The day of the earthquake broke with a ſerene ſky, the wind continuing at eaſt; but about nine o'clock the Sun began to grow dim; and ſoon after was heard a rumbling noiſe, like that of carriages, which increaſed to ſuch a degree as to equal that of the loudeſt cannon; upon which the firſt ſhock was felt, which was immediately ſucceeded by a ſecond and a third, the whole duration of which was about eight minutes; about twelve o'clock another ſhock was felt.

During the firſt ſhock, the greateſt part of the public edifices and other buildings of the city were thrown down; and not leſs than ſixty thouſand of its inhabitants buried in the ruins. The earth opened in fiſſures in ſeveral parts, and ſeveral light flames of fire were obſerved to iſſue from the ſides of the mountains, reſembling thoſe of kindled charcoal.

coal. Subterraneous rumblings were alſo felt, attended with a diſcharge of great quantities of ſmoke. The water in the ſea roſe ſeveral times, and in a few minutes made three fluxes and refluxes, riſing above the greateſt ſpring-tides no leſs than fifteen Engliſh feet. The ſhock was ſo violent fifty leagues off at ſea, as greatly to injure the deck of a ſhip, and to lead the captain to apprehend, that he had miſtaken his reckoning and ſtruck on a rock. The ſhock was alſo felt about the ſame time at Oporto, by which the whole city was ſhaken, ſeveral chimneys, ſtones, and cradles, were thrown down, and ſome buildings opened at top; and the ſwelling in the river was ſo conſiderable, that two large ſhips, which were juſt got over the bar, were driven back into the harbour. The ſame ſhock was equally violent at Madrid, Seville, and Cadiz; and in this laſt place the ſea roſe in a wave at leaſt ſixty feet higher than uſual, daſhed againſt the rocks on the weſt part of the town, and againſt the walls with ſuch violence as to beat in the breaſt-work and a great part of the walls, ſo that ſeveral perſons were drowned by it. The day when the earthquake happened at Cadiz was as clear and ſerene as the fineſt ſummer-day in England. Many other cities, both in Spain and Portugal, were conſiderably damaged. The effects of this earthquake, in violently agitating the waters, were perceived in many parts of England, Scotland, and Ireland; and the ſhock not only reached to Switzerland, Holland, and other parts of Europe, but it was communicated to Africa, and deſtroyed ſeveral cities on the coaſt of Barbary; and it was alſo felt about the ſame time in the iſland of Madeira, where the water roſe full fifteen feet perpendicular above high-water mark.

The laſt terrible earthquake of which we have any account happened in Sicily and Calabria in the year 1782. It began about ſix o'clock in the morning of the 5th of February, and the ſhocks continued to be felt with more or leſs violence for near two months. The commotions firſt broke out at Mount Caulone, one of the Apennines, which traverſes through all Italy. The undulations were obſerved to be in every direction; but the vertical ones were the moſt fatal. The towns and villages in Calabria, that were either totally or partly deſtroyed by it, are very numerous: among the principal ones are Franc Villa, Batatico, Monteleone, Vallelonga, Francia, Mileto, Soriano, Areta, Roſſano, Palma, Cinquefronde, Sinopoli, St Euphemia, Scilla, Reggio, Beva, Meſſina, Oppido, Bagnara, Cozenza, Catanzara, Maide, Caſtiglione, &c. The face of the whole country became entirely changed; the courſes of many ſprings and rivers were either totally abſorbed, or turned into new directions; and ſeveral water-mills were left dry, without the leaſt veſtiges of the channels by which they had been driven. A conſiderable

tract of country was entirely ſwallowed up by the ſea; and that which was before covered with water became dry land. Whole flocks of ſheep and herds of cattle were ſwallowed up as they were grazing; the earth opened and ſhut, exhibiting chaſms of the moſt horrible depth, vomiting forth ſulphurcous flame and vapour. Upwards of twenty-ſix thouſand ſouls were either precipitated into the bowels of the earth, or mangled by the fall of buildings, and buried in the ruins! By this no leſs fatal than recent example of the phenomena of earthquakes, it ſhould ſeem that the cauſe or ſeat of them lies far below the ſurface of the earth or depths of the ocean.

Of the TIDES.

The Tides are two periodical motions of the waters of the ſea, called alſo the flux and reflux, or the ebb and flow. When the Moon is in the firſt and third quarter, i. e. when ſhe is new and full, the tides are high and ſwift, and are called *ſpring-tides*—when ſhe is in the ſecond and laſt quarter, the tides are lower and ſlower, and are called *neap-tides*.

In the phenomena of the tides, the ſea is obſerved to flow, for certain hours, from ſouth towards north; in which motion, or flux, which laſts about ſix hours, the ſea gradually ſwells; ſo that, entering the mouths of rivers, it drives back the river-waters toward their heads, or ſprings. After a continual flux of ſix hours, the ſea ſeems to reſt for about a quarter of an hour; after which it begins to ebb, or retire back again from north to ſouth, for ſix hours more; in which time, the water ſinking, the rivers reſume their natural courſe. Then, after a ſeeming pauſe of a quarter of an hour, the ſea again begins to flow, as before; and thus alternately. Thus does the ſea ebb twice a-day, and flow as often; but not in the ſame hours thereof. The period of a flux and reflux is twelve hours forty-eight minutes, ſo that the tides return later and later each day, by forty-eight minutes, or three quarters of an hour and three minutes. Now twelve hours forty-eight minutes is a lunar day; i. e. the Moon paſſes the earth's meridian later and later each day by forty-eight minutes. So that the ſea flows as often as the Moon paſſes the two meridians of the world, namely, that above and that below the horizon; and ebbs as often as ſhe paſſes the horizon, both the eaſtern and weſtern points thereof. This farther agreement we likewiſe obſerve between the Moon and the ſea, that the tides, though conſtant, are not equal, but are greateſt when the Moon is in conjunction or oppoſition, and leaſt when in quartile, thereto. But thoſe tides are the greateſt which happen in the new and full Moon, at the time

of the equinoxes. And theſe ſame effects are obſervable throughout moſt of the coaſts of Europe; only that the tides are ſo much the leſs, and happen later, as the coaſts are the more northerly.

Theſe phenomena of the tides are admirably accounted for, from the principles of gravitation. All that is requiſite to their ſolution is, that the Earth and Moon, and every particle thereof, mutually gravitate towards each other; the reaſonableneſs of which aſſumption is every way apparent. Indeed the ſagacious Kepler, long ago, conjectured this to be the cauſe of the tides. "If," ſays he, "the earth ceaſed to attract its waters towards itſelf, all the water in the ocean would riſe and flow into the Moon; the ſphere of the Moon's attraction extends to our earth, and draws up the water." Thus thought Kepler, in his Introd. ad Theor. Mart. This ſurmiſe, for it was then no more, is now abundantly verified in the theory firſt amply deduced by Dr. Halley, from the Newtonian principles. However, we may obſerve with M. de la Lande, (Aſtronomie, vol. iv. Paris, 1781.) that ſeveral of the ancients, and among others, Pliny, Ptolomy, and Macrobius, were acquainted with the influence of the Sun and Moon upon the tides. And Pliny ſays expreſsly, that the cauſe of the ebb and flow is in the Sun, which attracts the waters of the ocean; and adds, that the waters riſe in proportion to the proximity of the Moon to the Earth.

To illuſtrate the foregoing obſervations, let N E S Q, in the annexed plate, *fig.* 1. repreſent the earth, covered over with water A B D F; N S the axis of the earth, E Q the equator, T R the tropic of Cancer, *t r* the tropic of Capricorn, M the Moon in her orbit, S the Sun in his. Now, ſince all bodies are endued with an attracting virtue, the Moon will attract all the water in the neareſt hemiſphere F A B with degrees of force which are inverſely as the ſquares of the diſtances from all parts; and therefore with the ſtrongeſt force where the diſtance is leaſt, viz. in the point A, directly under her: and this attraction being in this hemiſphere contrary to that of the earth, the water in all parts from B to F towards A will have its gravity decreaſing, and be higheſt of all at the part A; and conſequently muſt there ſtand higher than at the point F, where, being more attracted by the Earth, it muſt be heavier and nearer to the center, as is evident from the laws of hydroſtatics. Again, in the hemiſphere F D B, the attraction of the Moon conſpires with that of the earth; but, decreaſing as the ſquares of the diſtances increaſe, the joint force of attraction will every where decreaſe from F and B towards D, the point oppoſite to the Moon; where, again, the waters will be lighteſt, and therefore ſtand higheſt to preſerve the equilibrium. Whence it appears, that,

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by this ſum and difference of the Moon's and Earth's attraction, there will neceſſarily enſue a protuberance or ſwelling of the waters, which we call tides of flood, in the two points A and D directly under the Moon. Alſo in the two points F and B, as the waters are there moſt attracted, ſo they will be heavieſt, and conſequently riſe to the leaſt height from the earth's ſurface, whence they are called tides of ebb, or the ebbing of the water. If to the power of the Moon we add that of the Sun, we ſhall have the tides conſiderably augmented at the conjunction in S, or oppoſition in H, that is, at the new and full Moons, which are called the ſpring-tides; as thoſe which happen when the Sun is at O or P are called neap-tides, the waters at A and D being then loweſt, becauſe the attraction of the Moon is then counterbalanced by that of the Sun. It is farther to be obſerved, that of the two tides of flood, at A and D, that at A is greateſt to any place T in the northern latitude, when the Moon is in the northern ſigns, and above the horizon: for the point A is then nearer the zenith of the place G than the oppoſite point D is to the ſame place at R twelve hours afterwards; and conſequently, the height of the tide T G is greater than that of the oppoſite tide R *g*. The contrary of this happens when the Moon is in the ſouthern ſigns.

That there are two tides of flood, and two of ebb, ſucceeding each other alternately at about the interval of ſix hours, is obvious from the figure: and that they happen later each day near an hour, is owing to their exact correſpondence to the motion of the Moon, which daily culminates ſo much later. That they happen not when the Moon is in the meridian, but, about three hours after, is owing to the force of the Moon being then greater than when in the meridian of any place; as the heat of the day is greater at three o'clock than at twelve; and the heat of the ſummer is greater in Auguſt, than at the 21ſt of June. Laſtly, that the greateſt ſpring-tides happen not at the 21ſt of March and 23d of September, but in February and October, is becauſe the Sun being neareſt the earth in December, his influence is then ſtrongeſt, and ſo muſt quicken the time of the greateſt vernal tides; and, being weakeſt in June, the time of the autumnal tides will neceſſarily be retarded. The ſum of what has been ſaid is this: if N O P Q, *fig.* 2. be the ſurface of the earth, T its center, I F K G L H C E a circle repreſenting the ſpherical ſurface of the waters covering the earth, and affected only by the attractive power of the earth: upon placing an attracting body at S, the waters will no longer continue their ſpherical figure, but be immediately drawn into the ſpheroidical figure A C B D, in ſuch manner as to be depreſſed at C and D to M and K, and elevated from L and I to A

and B; and the elevation A L or B I is double the depreſſion C M or D K. That, if S be the Sun, then A P—O K=A L+K D= 25 inches; or 11½ feet, if S be the Moon. That, at the points E, F, G, H, (which are called the octants,) the water is neither elevated nor depreſſed. That, if any other body be placed at O, as the Moon, in the ſame right line T S; then, by the joint influence of both S and O, the elevation at A and B will be increaſed, and the depreſſion at C and D likewiſe. Laſtly, if S be in the ſituation *S*, or vertical to the point D, it is plain its action to raiſe the water D will be directly contrary to that of the Moon in depreſſing it there; wherefore the depreſſion will not be ſo great as before; for the ſame reaſon the elevation at A and B will be diminiſhed, being now only as the difference of the two forces, whereas before they were as the ſum.

We ſhall now conſider the phenomena of the tides which remain; and firſt, it is evident, that, if P N be the axis of the earth, and Q O the diameter of the equator, then the Moon ſituated at O, over one of the poles, would accumulate the water over each pole, and the ſpheroid would be ſo poſited as to have its longeſt axis A B coinciding with the axis of the earth P N. In this poſition of the ſpheroid, it is plain, there could be no ſuch thing as a tide in any part of the ocean over all the earth; for every ſection of the ſpheroid, parallel to the equator, would be a circle; conſequently, in any parallel of latitude, the water would be at an equal diſtance from the earth's ſurface every moment of the diurnal revolution, or natural day. Suppoſe the Moon were removed from the direction of the earth's axis, and poſited at S, *fig.* 3, then will the axis of the aqueous ſpheroid A B be turned towards S, and make an angle with the earth's axis, as A T P or B T N. Then we obſerve, that ſince C, D, are the places of loweſt water, that parallel I K which paſſes through the point I on one ſide the equator, and L M which paſſes through M on the other, will divide the earth into three zones, in two of which, viz. E N K and L M P, there will be but one tide each day of the ſame kind; for inſtance, in the parallel E F, a perſon at F will have high water, and at E low water for twelve hours after. Again, in all the zone I K M L, there will be two tides of the ſame kind each day, as is evident from the figure. Theſe limits, or the arch Q I or O M, is the complement of the Moon's declination from the equator. If the Moon at S, *fig.* 4. be over the equator, the longer axis of the ſpheroid A B will now coincide with the plane of the equator Q O, and the ſhorter axis C D with the axis of the earth N P. Here it is obvious, that, in this ſituation of the ſpheroid, the waters in the parts A B, with reſpect to thoſe at C D, will give the greateſt difference of high and low water poſſible to all parts of

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the earth; and that there is no place but thoſe two at the poles N, P, but what has two tides of flood and two of ebb every twenty-four hours. And this difference of the flux and reflux will decreaſe from the equator to the poles.

It has been already obſerved, that the greateſt elevation of the waters is not when the luminary is in the meridian, but about three hours after, becauſe the motion communicated to the waters during the arrival of the meridian is not immediately deſtroyed, but remains for ſome time, and receives a farther augmentation from that which is impreſſed for about three hours after. For the ſame reaſon, we obſerve, the greateſt and leaſt tides happen not on the day of the ſyzygy, or quadrature, but on the third or fourth after; the ſum or difference of the forces of the luminaries not being till then at a maximum. Let S F E G, *fig.* 5. be the orbit of the Moon about the earth Q N O P; but, as this is not circular but elliptical, the center of the earth T will not be always at an equal diſtance from the Moon; but the Moon will be ſometimes neareſt the earth, as when at S, and ſometimes fartheſt off, as at E. The point S is called the perigæum, or perigee; and the point E the apogæum, or apogee. The power of the Moon in her perigee is to that in the apogee nearly as TE^3 to TS^3; and conſequently the greateſt tides will be on the day of the perigee, or rather a few days after, for the reaſons above mentioned.

Such would the tides regularly be, if the earth were all over covered with ſea very deep, ſo that the water might follow the influence of the Sun and Moon; but, by reaſon of the ſhoalneſs of ſome places, and the narrowneſs of the ſtreights in others, by which the tides are propagated, there ariſes a great diverſity in the effect, not to be accounted for without an exact knowledge of all the circumſtances of the ſeveral places where they happen; as the poſition of the land, the breadth and depth of the channels, direction of the winds, &c.

For a very ſlow and imperceptible motion of the whole body of water, where it is (for example) two miles deep, will ſuffice to raiſe its ſurface ten or twelve feet in a tide's time; whereas, if the ſame quantity of water were to be conveyed through a channel forty fathom deep, it would require a very great ſtream to effect it in ſo large inlets as are the channel of England and the German ocean; whence the tide is found to ſet ſtrongeſt in thoſe places where the ſea grows narroweſt, the ſame quantity of water being, in that caſe, to paſs through a ſmaller paſſage. This is moſt evident in the ſtreights between Portland and Cape la Hogue in

Normandy, where the tide runs like a ſluice; and would be yet more between Dover and Calais, if the tide coming round the iſland did not check it. This force, being once impreſſed upon the water, continues to carry it above the level of the ordinary height in the ocean, particularly where the water meets a direct obſtacle, as it does in St. Maloes; and where it enters into a long channel, which, running far into the land, grows very ſtraight at its extremity, as it does into the Severn ſea at Chepſtow and Briſtol. This ſhoalneſs of the ſea, and the intercurrent continents, are the reaſons that in the open ocean the tides riſe but to very ſmall heights in proportion to what they do in wide-mouthed rivers, opening in the direction of the ſtream of the tide, as it is obſerved upon all the weſtern coaſts of Europe and Africa, from Ireland to the Cape of Good Hope; in all which a ſouth-weſt Moon makes high water; and the ſame is reported to hold in the weſt of America. So that tides happen to different places at all diſtances of the Moon from the meridian, and conſequently at all hours of the lunar day.

It is to be conſidered that, in order to allow the tides their full motion, the ocean, in which they are produced, ought to be extended from eaſt to weſt ninety degrees at leaſt. Becauſe the places, where the Moon raiſes moſt and moſt depreſſes the water, are at that diſtance from each other. Hence it appears, that it is only in the great oceans that ſuch tides can be produced, and why in the larger Pacific ocean they exceed thoſe in the Atlantic ocean. Hence alſo it is obvious, why the tides are not ſo great in the torrid zone, between Africa and America, where the ocean is narrower, as in the temperate zones on either ſide; and we may hence alſo underſtand, why the tides are ſo ſmall in iſlands that are very far diſtant from the ſhores. It is manifeſt that, in the Atlantic ocean, the water cannot riſe on one ſhore but by deſcending on the other; ſo that, at the intermediate diſtant iſlands, it muſt continue at a mean height betwixt its elevation on one and on the other ſhore. But when tides paſs over ſhoals, and through ſtraits into bays of the ſea, their motion becomes more various and complicated, and their height depends on many circumſtances.

The tide that is produced on the weſtern coaſts of Europe, in the Atlantic, correſponds to the ſituation of the Moon already deſcribed. Thus it is high water on the coaſts of Spain, Portugal, and the weſt of Ireland, about the third hour after the Moon has paſſed the meridian; from thence it flows into the adjacent channels, as it finds the eaſieſt paſſage. One current from it, for example, runs up by the ſouth of England, another comes in by the north of Scotland; they take a conſiderable time to move

move all this way, and it is high water ſooneſt at thoſe places to which they firſt come, and it begins to fall at thoſe places while they are ſtill going on to others that are farther in their courſe. As they return, they are not able to raiſe the tide, becauſe the water runs faſter off than it returns, till, by a new tide propagated from the open ocean, the return of the current is ſtopped, and the water begins to riſe again. The tide, propagated by the Moon, in the German ocean, when ſhe is three hours paſt the meridian, takes twelve hours to come from thence to London-bridge; ſo that, when it is high water there, a new tide is already come to its height in the ocean; and, in ſome intermediate place, it muſt be low-water at the ſame time. Conſequently, when the Moon has north declination, and we ſhould expect the tide at London to be the greateſt when the Moon is above the horizon, we find it is leaſt: and the contrary when ſhe has ſouth declination. At ſeveral places it is high water three hours before the Moon comes to the meridian; but that tide which the Moon puſhes, as it were, before her, is only the tide oppoſite to that which was raiſed by her when ſhe was nine hours paſt the meridian.

It would be endleſs to recount all the particular ſolutions which are eaſy corollaries from this doctrine; as, why the lakes and ſeas, ſuch as the Caſpian ſea and the Mediterranean ſea, the Black ſea and Baltic, have no ſenſible tides: for lakes are generally ſo ſmall, that when the Moon is vertical ſhe attracts every part of them alike, and therefore no part of the water can be raiſed higher than another: and, having no communication with the ocean, it can neither increaſe nor diminiſh their water, in order to riſe or fall; and ſeas, that communicate by ſuch narrow inlets, and are of ſo immenſe an extent, cannot, in a few hours time, receive and empty water enough to raiſe or ſink their ſurface any thing ſenſibly. To demonſtrate the excellency of this doctrine, the example of the tides in the port of Batſha, in the kingdom of Tonquin in the Eaſt Indies, in 20 degrees 50 minutes north latitude, which are ſo extraordinary and different from all others we have yet heard of, may ſuffice. The day in which the Moon paſſes the equinoctial, the water ſtagnates there without any motion; as the Moon removes from the equinoctial, the water begins to riſe and fall once a day; and it is high-water at the ſetting of the Moon, and low-water at her riſing. This daily tide increaſes for about ſeven or eight days, and then decreaſes for as many days by the ſame degrees, till this motion ceaſes, when the Moon has returned to the equinoctial. When ſhe has paſſed the equinoctial, and declines toward the ſouth pole, the water riſes and falls again as before; but it is high water now at the riſing, and low water at the ſetting, of the Moon. Sir Iſaac Newton, in order to account for this extraordinary tide, conſi-

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ders that there are two inlets to this port of Batſha, one from the Chineſe ocean, betwixt the continent and the Manillas, the other from the Indian ocean, betwixt the continent and Borneo. This leads him to propoſe, as a ſolution of this phenomenon, that a tide may arrive at Batſha, through one of theſe inlets, at the third hour of the Moon, and another through the other inlet, ſix hours after, at the ninth hour of the Moon. For, while the tides are equal, the one flowing in as the other ebbs out, the water muſt ſtagnate; now they are equal when the Moon is in the equinoctial; but, as ſoon as the Moon begins to decline on the ſame ſide of the equator with Batſha, it has been ſhewn that the diurnal tide muſt exceed the nocturnal, ſo that two greater and two leſs tides muſt arrive at Batſha by turns. The difference of theſe will produce an agitation of the water, which will riſe to its greateſt height at the mean time betwixt the two greateſt tides, and fall loweſt at a mean time betwixt the two leaſt tides; ſo that it will be high water about the ſixth hour at the ſetting of the Moon, and low water at her riſing. When the Moon has got to the other ſide of the equinoctial, the nocturnal tide will exceed the diurnal; and, therefore, the high water will be at the riſing, and low water at the ſetting, of the Moon. The ſame principles will ſerve to account for other extraordinary tides, which, we are told, are obſerved in places whoſe ſituation expoſes them to ſuch irregularities, and which appear to admit of no other ſolution.

When the time of high water at any place is, in general, mentioned, it is to be underſtood on the days of the ſyzygies, or days of new and full Moon; when the Sun and Moon paſs the meridian of the place at the ſame time. Among pilots, it is cuſtomary to reckon the time of flood, or high water, by the point of the compaſs the Moon bears on, allowing three quarters of an hour for each point, at that time; thus, on the full and change days, in places where it is flood at noon, the tide is ſaid to flow north and ſouth, or at twelve o'clock; in other places, on the ſame days, where the Moon bears 1, 2, 3, 4, or more, points to the eaſt or weſt of the meridian, when it is high water, the tide is ſaid to flow on ſuch point; thus, if the Moon bears S. E. at flood, it is ſaid to flow S. E. and N. W. or three hours *before* the meridian, that is, at nine o'clock: if it bears S. W. it flows S. W. and N. E. or at three hours *after* the meridian; and in like manner for other times of the Moon's bearing. The times of high water in any place fall about the ſame hours after a period of about fifteen days, or between one ſpring-tide and another; but, during that period, the times of high water fall each day later by about forty-eight minutes. From theſe calculations, aſſiſted by the obſervations of a number of different perſons, there have been collected,